

**THE DIMENSIONALITY OF SOLDIER ACCEPTANCE:  
AN APPROACH TO CRITERION RESEARCH**

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## CHAPTER I

### THE PROBLEM

#### Introduction

One of the most perplexing problems in psychological measurement is that of developing valid indices of behavior which can be used as criterion measures for checking the validity of predictive systems. Much research has been devoted to this problem with few if any acceptable solutions. For many investigators the missing link is a "master" solution to the criterion problem, but a review of the literature suggests that there is no "master" solution, and there seems to be little possibility that one will ever be developed. There are criterion problems and each must be solved every time a predictive system is developed.

This seems to imply that only with the completion of a multitude of small scale investigations will the millennium be reached when all the little specific criterion problems are solved. It also seems to imply that new methods and techniques must be designed each time a new predictive system is needed. However, there is the possibility of supplying the missing link by developing a general approach or method of attack which can be applied to a wide variety of specific criterion problems.

In recent years many investigators have become concerned with improving criterion variables. In 1941 Bellows (3) pointed out that investigators had too often neglected the fact that the basic criteria of their predictive systems were fallible, and procedures for evaluating them were outlined. In 1946 Jenkins (15) stressed the importance of establishing criteria that have validity for the behavior being measured and predicted. Stuit and Wilson (28) reported on the effects of an increasingly well-defined criterion upon the prediction of success in naval training. Van Dusen (33) discussed the importance of criteria in selection and training and specified some conditions which affect their validity. Methods were suggested whereby the validity and also the reliability of these criterion measures could be improved. Stuit (27), Long and Lawshe (20), and Lauer (19) emphasized the importance of using valid criteria and suggested principles for the improvement of validating instruments. While these investigators offered little in the way of a general method of attack, they did emphasize the importance of the problem of criterion validity.

Some investigators have suggested that factor analysis may be a general technique that can be used to establish valid criteria. Guilford (12) stated that validity is of two kinds: factorial and practical. Factorial validity is given by a test's loadings on common reference factors; practical validity is given by its correlation with a

practical criterion of adjustment. Cattell (5) stated that any device designed to measure major personality dimensions must be validated as a "true psychological functional entity" and pointed out that this may be done either by factor or cluster analysis or by "item validation". One of the conclusions from Dudek's (8) factorial studies of pilot selection tests was the importance of determining the factorial composition of criteria in order to construct better instruments for measuring them. Gulliksen (13) pointed out that while judgments of experts may appear to be adequate criteria, they should be statistically analyzed by means of factor analysis. These writers not only emphasize the necessity of developing valid criteria, but also suggest that it is possible to develop a general method of attacking specific criterion problems.

Many of the ingredients necessary for the development of a general method are presently available. Investigators are aware of the importance of the problem, and some attempts have been made to solve it. Experimental methods, measuring techniques and statistical procedures are also available. But, present techniques for attacking such problems are not designed to operate at high enough levels of generality to have wide applicability. Their scope is limited to specific situations. If a new method is to be applicable to many different types of criterion problems, it must be designed to operate at high levels of generality.

A complete predictive system is essentially circular. Efficient progress toward the goal depends upon the starting point and the direction of movement. If a start is made with simple, easily observed behavior patterns, one attempts to find complex behavior patterns that are validly predicted by the simple patterns. If a start is made with the complex behavior patterns, one determines those readily measured behavior patterns which are valid indices of the complex behavior.

For the purpose of developing this point of view, it is convenient to picture complete predictive systems as constituting four levels of generality. Level I is the ultimate goal of complete predictive systems. At this highest level of generality is the specified behavior that a system attempts to predict. At this level it is theoretically possible to account for the total variability in the system. Operating at this level will always be difficult because the behavior is complex and difficult to measure. Teachers' rating, judgments by experts, etc., are the kinds of instruments presently available for measurement at this level. This behavior is what Thorndike (29) would call an "ultimate" criterion. The dependent variables that most predictive systems would like to predict are found here, but the predictions must be made indirectly by predicting criterion variables which are valid indices of the ultimate behavior.



At the next level of generality complex aspects of the ultimate behavior are specified. These are basic components, attributes, dimensions, primary factors or criteria of the ultimate behavior. At this level some error is present but, theoretically, it is still possible to account for a major portion of the total variability. Measurement is still difficult, however, for few instruments are available for measuring behavior even at Level II. The types of instruments most suitable for measuring this level of behavior are those developed and refined by factorial methods, those validated against ultimate criteria, etc. Thorndike (29) refers to these as "intermediate" criteria. These are the criterion variables which, in practice, are the dependent variables of many predictive systems.

At Level III the behavior is still complex, but it is more readily measured. At this level the portion of the total variability that can be accounted for is much smaller than at Level II because a sizable error variance enters the system. This is a measurement level, however, because adequate instruments have been developed. Instruments used at this level are the standardized tests of intelligence, aptitudes, interests, personality, etc. This is where most psychological measuring is done, and this is the highest level at which many predictive systems can operate efficiently. This behavior is what Thorndike (29) called "immediate" criteria. At this level are criterion variables which can be readily measured and predicted, but

establishing their validity as criteria of the ultimate behavior is very difficult.

At Level IV, the lowest level of generality, behavior is relatively simple, and overt behavior patterns are described that can be easily observed and readily counted or measured. The types of instruments used at this level are simple psycho-motor tests, reaction times, etc. Error variance is very large, however, and the portion of the total variability that can be accounted for is small. This is the predictor level; the one from which most predictive systems operate. Here are found independent variables that can be readily measured and fed into regression equations. Prediction from this level generally involves predicting behavior found at Level III.

The operating level depends upon how adequately behavior can be specified and measured. With some types of behavior it may be possible to operate only at Level IV; with others it may be possible to operate at higher levels. Behavior patterns at Level III are independent variables for a system which operates at Level IV. If the system becomes more refined, Level III then contains the dependent variables, and the independent variables move to Level II.

At present most predictive systems operate at Levels III and IV. Levels I and II are not only missing, their existence is often not recognized by the developers of such systems. The approach underlying such systems is "inductive" in the sense that the direction of development has been from

the specific to the more general levels. The approach developed in this investigation is just the reverse, in the sense that it starts at Level I and moves from the general to the more specific levels. It operates on the assumption that the most logical starting point for developing an efficient predictive system is with the behavior the system is designed to predict. The two approaches are in agreement in that Level III is at present the optimal operating level, but they differ in the steps involved in arriving at this level. The first starts at Level IV and is faced with the never ending problem of developing and refining not only measuring instruments but also criterion variables for validating the instruments. The latter starts at Level I with the behavior that is to be predicted. This behavior is analyzed, and criteria are established which have known validity. With the criterion variables already established and with knowledge of the ultimate behavior, the development of refined measuring instruments is greatly simplified.

The most serious weakness of the "inductive" approach lies in the establishment of higher order criterion variables. Two methods are used to arrive at Level II. One method rationally derives criteria having high face validity and uses these as dependent variables against which to check the adequacy of predictions. However, since it has been experimentally demonstrated by at least one investigator (1) that the relationship between face and "true" validity is small and undependable, a system developed in

this manner is inherently weak at this point. Definitions of such criteria are difficult to attain and are often circular in the sense that they are defined in terms of the instruments used to measure them.

A second and more definitive method of establishing criteria is through the use of factor analysis. This technique analyzes the relationships existing in the inter-correlations among a set of measuring instruments and isolates the underlying factors being measured. These primary factors are given psychological meaning through rotation and are defined on the basis of a knowledge of the measuring instruments. As it has been used, this method is also circular for it starts with a set of measuring instruments and derives criteria which are defined in terms of these same instruments. The validity of the original instruments determines whether criteria established in this fashion are valid indices of the behavior at Level II. Quite often these instruments are originally validated against criterion variables established by the method described in the preceding paragraph.

The approach developed in this investigation arrives at Level II by starting at Level I with the ultimate behavior, not at Level III with measuring instruments of questionable validity. Criterion variables are established and defined in terms of the actual behavior, not in terms of measuring devices. The feasibility of such an approach will depend upon the development of a method of analyzing

and specifying the ultimate behavior. The method must afford a means of isolating and defining criterion variables, and it must also provide a means of checking their validity.

The theoretical approach described above grew out of an attempt to solve the practical problem of isolating and defining criteria of the acceptance by Army troops of Quartermaster items of clothing and personal equipment. It became apparent after an intensive analysis that the problem was very complex, and that existing approaches were inadequate for its solution. In view of this, the formulation of a somewhat different theoretical position was required. As a result of a comprehensive survey of the literature, it was concluded that existing methods of measuring and predicting consumer acceptance were inadequate for solving the problem. Hence, it became necessary to design a relatively new one. This method, which is described in detail in Chapter II, was designed not only to solve the problem at hand but also to apply to a variety of criterion problems.

### Background of the Problem

One mission of the Quartermaster Corps is to supply Army personnel with the food, clothing and personal equipment that is necessary for the effective performance of their duties. A significant aspect of this objective is the development of new and more effective items of clothing and equipment. Before an experimental item can be adopted as

an item of issue, it must meet certain standards. Specifications for a new item are set up in terms of military characteristics and certain engineering and design features which must be incorporated into the item. Quartermaster Corps experts have developed product testing techniques for determining whether an experimental item meets these standards. A real problem arises, however, when it becomes necessary to determine if the item will meet the criterion of soldier acceptance.

Since soldier acceptance appears to be a special case of general consumer acceptance, the consumer and market research literature was surveyed. The trade journals contained many excellent general discussions of the importance of appropriate market research. For example, Weintz (34) stressed the need for studying the consumer market before launching a new product, and La Clave (18) discussed the benefits gained from proper market research. Johnson (16) presented examples of benefits resulting from redesigning products to bring them more in line with consumer demands, and Smith (24) discussed some of the major problems of marketing research. None of these references, however, offered anything in the way of methodology; no mention was made of methods of determining consumer demands. More comprehensive works by Kornhauser and Lazarsfeld (17), Blankenship (4), and Churchman, et.al. (6) are excellent sources of information on the problems and techniques of market and consumer research, but they offer little assistance on the problem of criterion determination.

There are many references in the literature which describe methods of measuring consumer preference. Franzen and Teilhet (11) described the "Planted Sampling" method wherein a random sample of families are exposed to a pair of products for a period of time and are asked to indicate their preference. An adaptation of this method has been used by the Quartermaster Board in acceptance testing. Both a standard and an experimental item are given to a sample of soldiers who use them together or alternately. After a period of time a survey is made to determine their preferences. Stonborough (25) discussed the "Fixed Panel" method, an adaptation of which has been used by the Food and Container Institute in food tasting studies. The "Continuous Consumer Panel" method described by Womer (35) and the "Psycho-Panel" method described by Dever (7) are probably not adaptable to the Quartermaster situation. The first method involves collecting certain data from a panel of consumers over a relatively long period of time, then examining these data in conjunction with market data in an attempt to understand family buying habits. The latter method is an attempt to relate certain personality variables to buying habits and preferences. Schlosberg (23) demonstrated that the psychophysical method of constant stimuli could be used for determining product preferences, but this method is impractical for measuring soldier acceptance. Fleishman (10) described a method of measuring preferences similar to the "Planted Sampling" method which

is much better controlled and produces more definitive results than does this method. Thurstone's (30) method of predicting choice is not adaptable to the Quartermaster situation because it is limited to a free choice situation. (It is interesting to note that Thurstone is attempting to develop a method of predicting purchase as distinguished from predicting choice (31).)

There are two reasons why none of the above methods were thought suitable for the problem at hand. These methods were designed primarily to measure consumer preference, and while it may be safe to assume that there is a close relationship between personal preference and acceptance in the general consumer market, such an assumption is not warranted in the case of soldier acceptance. The other reason stems from an examination of the criterion variables used with these methods. Such easily obtained indices as sales volume, rate of repeated buying, rate of use, etc., are neither available nor applicable to soldier acceptance. Some intuitively derived criteria were available, but their validity as criterion variables was completely unknown.

The problem was to determine what was to be measured and predicted. In line with Horst's (14) statement that "the analysis of activities into their constituent elements is...the first phase of any prediction study" (14), and consistent with the theoretical approach of this investigation, the problem was the specification of the components of acceptance behavior of Army troops. This is, in effect,



a dimensionality problem, but the work by Richardson (22), Young (36), Peel (21), and Torgerson (32) was of little help since it is concerned with the scaling of multidimensional psychophysical data. To solve the problem it was necessary to develop a new method which would elicit acceptance behavior and produce data which would reflect dimensions of that behavior.

## CHAPTER II

### THE METHOD

The method developed for this investigation was designed to demonstrate the feasibility of the theoretical approach formulated in Chapter I. Although certain of its features are specific to the problem of soldier acceptance, the method is flexible. A demonstration of its effectiveness in the present situation is evidence that it may be applied to a variety of other criterion problems.

#### The Sampling Plan

The sampling plan was designed to insure the operation of three important sources of variability in acceptance scores. Conditions or situations in which Army clothing and equipment are used determine to some extent the military characteristics of the items. A soldier's acceptance of an item will also be determined to some extent by these conditions. For example, in combat a rifle may be highly acceptable; in basic training it may or may not be acceptable. Variability due to individual differences is such a well-established phenomenon in psychological research that investigations dealing with human responses must be concerned with this variable. A third source of variability is the individual items of clothing and equipment. There is no justification for assuming that because a soldier

accepts one item he will also accept other items. These three variables will hereafter be referred to, respectively, as Conditions of Use, Individual Differences and Item Differences.

A form of purposive sampling was selected as the most efficient sampling plan for this investigation. It is evident that it would be impractical to sample under all of the conditions in which Army equipment is used. The nature of the Army's mission, its structure and its operating procedures precluded the establishment of mutually exclusive categories based on conditions of use, but overlap between categories was assumed to be unimportant as long as the system produced differences among strata. A somewhat arbitrary, but meaningful, stratification system based upon conditions of use was designed. The system covers only a limited range, but that range is sufficient to produce the desired results.

The system included six categories which were originally defined as follows:

Stratum A. Troops in Training. This category will contain troops who are primarily engaged in some type of specialized training. Most Army troops are, in a sense, in training; but this category is defined to include only those troops engaged in basic training, specialized M.O.S. training, etc.

Stratum B. Troops in Dress Uniform. This category will contain troop units whose missions are such that the majority of the members wear the dress uniform or some modification of the dress uniform in the ordinary performance of their duties. This category will include such troops as headquarters administrative personnel, military police, band members, medical service personnel, etc.

Stratum C. Troops in Fatigue Uniform. This category will contain troop units whose missions are such that a majority of the members wear the fatigue uniform in the ordinary performance of their duties. This category will include such troops as motor vehicle drivers and mechanics, maintenance personnel, supply personnel, laborers, etc.

Stratum D. Combat Troops. This category will contain troop units which are operating in combat zones or combat veterans now in the Zone of the Interior or both.

Stratum E. Potential Combat Personnel. This category will contain troop units ordinarily classified as combat units, i.e., those designated as Class A units in T/A 21 (Mbl.)<sup>1</sup>. This category will include such units as infantry companies, armored companies, artillery batteries, combat engineers, airborne troops, etc.

Stratum F. Environmental Extremes. This category will contain troop units operating under unusual and/or extreme environmental conditions. This category will include troops operating in such environmental extremes as the desert, the tropics, the Arctic, etc.

Because of certain military restrictions, modifications were made which served to reduce the scope of the original sampling plan. In the original plan, troop units would have been the sampling units. The units from which subjects would have been drawn were to be selected at random within each stratum. All members of the selected units available at the time the data were to be collected would have been used as subjects. Troop units for Stratum A were to be selected from different Army training centers located in

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<sup>1</sup>Table of Allowances, Number 21 (Mbl.), Department of the Army, 26 January 1950.

Zones III and V<sup>2</sup>. Units for strata B, C and E were to be selected from U. S. forces operating in combat zones in Korea. Units for Stratum F were to be selected from Army installations in Zones I and VII.

In the revised plan, Stratum E, Potential Combat Personnel, was eliminated. Stratum D, Combat Troops, was redefined to include only combat veterans because troops operating in combat zones could not be obtained. Stratum F, Environmental Extremes, was modified to include only troops operating in the Arctic. Subjects for the other strata could be obtained only from troop units stationed at Fort Lee, Virginia. Since this restriction made a limited number of troop units available, a quota system was established for strata A, B and C; each stratum was to contain one hundred fifty subjects. Troop commanders of units classifiable into these three strata were notified that a certain number of their enlisted men would be used as subjects. The selection of the individual soldiers who were to report as subjects was left entirely to the troop commanders. Stratum A was also modified to include one hundred fifty enlisted women. One unit on the base contained a large number of combat veterans who were selected as subjects for Stratum D. Enlisted men from the Quartermaster Board who were on temporary duty at Fort Churchill, Canada were obtained as subjects for Stratum F.

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<sup>2</sup>Clothing Allowance Zones as defined in T/A 21 (Mbl.).

Master lists<sup>3</sup> containing twenty-eight Quartermaster items of clothing and personal equipment were set up for each stratum. The items were selected from T/A 21 (Mbl.). The first fourteen items on each of these lists were the same and were listed in the same order. This set of items, common to all lists, was included so that a check on the effects of certain variables could be made. The common items were selected on the basis of the following criteria:

1. At least one item must be from the following types of clothing items: headwear, neckwear, underwear, innerwear, outerwear, overwear, handwear and footwear.

2. Items must be mandatory or discretionary items in all clothing allowance zones. Items must be those issued to all troops irrespective of conditions of use.

3. Items must be apportioned between clothing and personal equipment in approximately a 2 to 1 ratio.

4. Each list must contain items which, a priori, appear likely to be selected in all score categories.

The last fourteen items and the order in which they appeared were specific to each list. The conditions of use represented in the stratification system determined the selection of these items. For example, items of clothing designed for Arctic wear appeared only in the list for Stratum F. Insofar as possible, the above criteria were also used in the selection of these items.

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<sup>3</sup>See Appendix I.

Two item lists<sup>4</sup> were set up for each stratum. On one list the common items were placed in a random order at the beginning of the list; this same random order was used for all lists on which the common items appeared at the beginning of the list. On the other list the common items were placed in a different random order at the end of the list. This same order was used for all other lists on which the common items appeared at the end of the list. The specific items were arranged in random orders; a different order for each item list. One-half of the subjects in each stratum were given an item list on which the common items were at the beginning of the list. The remaining half were given item lists on which the common items were at the end of the list. This arrangement permitted a control on item order as a source of variability.

The lists for each stratum were checked to see that all items on the lists were currently issued to troops in that stratum. This was done to insure that each subject had the items in his possession. It was assumed that if he had the items, he would have had enough experience with them to have formed opinions about them. It is important to note that a subject did not have to rely too heavily upon memory in order to evaluate the items. He had the items and was using them. He might, in fact, have been wearing one of them at the time he was asked to evaluate it.

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<sup>4</sup>See Appendix I.

## The Task

In order to obtain the kinds of data needed for this investigation, it was necessary to design a realistic task. Data were needed which would indicate, to some degree, a soldier's acceptance of Army items of clothing and equipment, and at the same time yield indications of what was involved in his making judgments that items were acceptable or not acceptable. It was also necessary to design a task that could be easily accomplished by the average soldier.

The subjects in this investigation were asked to indicate their acceptance or rejection of certain items of clothing and personal equipment and to give their reasons for accepting or rejecting these items. The task was presented in the form of a booklet which contained a short personal data inventory, detailed instructions and a list of Army items. The booklets were the same for all subjects with the exception of the lists of items. Booklets presented to subjects in the various strata contained the appropriate lists of items.

Because of its complexity, the task was designed in four, more or less, distinct steps. Step 1 consisted only of the personal data inventory. This inventory was not an integral part of the task but was included to obtain data needed to describe the samples and to provide a means of checking on the operation of certain variables indirectly related to the purpose of the investigation.



The second step is the most important part of the task. In this step subjects were presented a form containing a list of Army items of clothing and personal equipment and a set of detailed instructions<sup>5</sup>. A sample of this form is shown below:

'Good	'Indif	'Bad	'Items	'Reasons
'	'	'	'Carbine	'
'	'	'	'Gas Mask	'
'	'	'	'Pistol Belt	'
'	'	'	'Collar Insignia	'
'	'	'	'Coverall Fatigues	'
'	'	'	'Field Pack	'

The crucial instructions for this step were as follows:

Look at the list of items on the next page. If you think an item is a good item, put a small check-mark in the "Good" column opposite that item. Tell why you think it is a good item in the "Reasons" column opposite that item. If you think an item is a bad item, put your check-mark in the "Bad" column. Tell why you think it is a bad item in the "Reasons" column. If you cannot decide whether an item is good or bad, put your check-mark in the "Indifferent" column. You need not give reasons for items you mark in this column.

This part of the task is the heart of the investigation, and it produced the essential data. Here the subject was

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<sup>5</sup>The complete task booklet is presented in Appendix II. Booklets were the same for all subjects with the exception of Page 3. The only change here, however, was in the list of items that appeared on this page.

asked to make a global judgment and then give his reasons for making the judgment. The judgment part of the task is relatively easy, and it is realistic since individuals make many such judgments in the course of ordinary living. Most soldiers have definite opinions about certain of the items of clothing and equipment issued to them. It may be a new experience for some of them to express the reasons underlying their opinions, but for others it will not be a new experience. Differences in ability to verbalize will affect the statements of why the judgments were made. It is recognized that this factor is not controlled in the present study, but since this is an exploratory study and a first attempt to measure acceptance behavior in this fashion, it is not essential that differences in verbal ability be controlled. In future studies, however, some attempt should be made to control this variable.

A similar task is sometimes used in market research studies, but in these studies the subject is asked why he likes or dislikes a particular product. This procedure gives the subject the set of personal preference upon which to base his judgment. In the task described here, the situation is left as unstructured as possible by using the ambiguous words "good" and "bad". The subject must supply the sets for his judgments, and these will be contained or reflected in his reasons. He can operate on some global criterion, such as necessity, or upon the purely personal basis of like or dislike, or upon any number of criteria

which he brings into the situation. We are, in other words, letting the actual users of Army equipment specify the criteria of soldier acceptance.

In Step 3 of the task, the subjects were asked to place those items they chose as good items in rank order. presented below are the instructions for this step:

Turn back to the list of items on Page 3. Look at the items you marked in the "Good" column. Choose the one you think is the best of these items and mark it with a one (1) in the same box where you put your check-mark for that item. Choose the one you think is second best and mark it with a two (2). Mark the third best one with a three (3), the fourth best one with a four (4) and so on until you have rated every item you marked in the "Good" column.

In Step 4 the subjects were asked to place those items they chose as bad items in rank order. Presented below are the instructions for this step:

Turn back to the list of items on Page 3 again. This time rate the items you marked in the "Bad" column. Choose the one you think is the worst of these items and mark it with a one (1) in the same box where you put your check-mark for that item. Choose the one you think is second worst and mark it with a two (2). Mark the third worst one with a three (3) and so on until you have rated every item you marked in the "Bad" column.

Steps 3 and 4 were not an integral part of the main purpose of the study but were included in order to obtain data for a related purpose. They were included in an attempt to obtain an order of preference for the items used in the study. The items could be ranked on the basis of the acceptance score but it was felt that if the subjects could accomplish these two steps a more meaningful preference order could be established. An item like the canteen,

for example, might rank high in a preference order based upon acceptance score but if it were ranked low among the "good" items by most subjects it would actually rank low in a preference order.

The task described above is essentially a modification of the nominating technique<sup>6</sup>. It is also a modification of a technique used by Roy B. and Ray C. Hackman in an occupational inventory entitled, Survey of Occupational Interests<sup>7</sup>. In this inventory subjects were asked to mark with a plus sign those jobs they liked or thought they would do well as; mark with a minus those they disliked or did not think they would do well as; and mark with a zero those they were indifferent to or knew nothing about. Subjects were also asked to place in rank order those jobs they marked plus and to rank those jobs they marked minus. The task used in this investigation is, in effect, an interrogation device designed to elicit the reasons underlying judgments that an item is good or bad. The task is very flexible and can be easily adapted to other situations. Its obvious application

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<sup>6</sup>For a description of this technique see: "The Nominating Technique" by C. L. Vaughn in G. A. Kelly (Ed.) New Methods in Applied Psychology. (College Park: University of Maryland, 1947) pp. 22-26. Also see: J. G. Jenkins, "The Nominating Technique as a Method of Evaluating Air Group Morale", J. aviat. Med., 1948, 19, 12-19.

<sup>7</sup>This interest inventory is still in the experimental stage and has not been published. This citation is made with the permission of Ray C. Hackman, one of the authors.

is to consumer research where the establishment of criteria of product acceptance is a matter of considerable importance. An important feature of the task is that it will produce data that are amenable to different statistical analyses.

### Collection of the Data

Pre-tests indicated that while Army personnel were able to accomplish the task without too much difficulty, some had difficulty in clearly understanding the written instructions. In view of this, the written instructions given to the subjects were presented verbally by the administrators, and examples to illustrate the task were presented on a blackboard. An administrator's manual designed to standardize the presentation of the instructions and the examples is reproduced in Appendix III<sup>8</sup>.

The task was administered to seven hundred fifty four enlisted men and women from twenty-two different troop units stationed at Fort Lee, Virginia, and to ninety enlisted men stationed at Fort Churchill, Canada. Of the total number administered, two hundred and seven booklets were discarded. Twenty-six were discarded because the subjects failed to

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<sup>8</sup>The troops at Fort Churchill were special test subjects of the Quartermaster Board and were not all issued the same items of equipment. For this group only the instructions in Step 1 were modified. These men were told that if they were unfamiliar with an item on the list to write "Unfamiliar" in the "Reasons" column opposite that item.

accomplish the task<sup>9</sup>; ninety-three because the subjects failed to complete the task, i.e., gave no response to one or more items or gave no reason for one or more items to which they had responded; sixty-eight because the subjects had previously participated in a related investigation<sup>10</sup>; seven because the subjects did not belong in that stratum; three because the subjects were given the wrong task booklet; and ten because all items were checked in the indifferent column<sup>11</sup>. This left a total of six hundred and thirty seven complete booklets which were included in the final data analyses. A summary by stratum is presented in Table I.

The Fort Lee phase of the study was done during the week March 24-28, 1952, under Test Directive QMBT 5221, The Dimensionality of Soldier Acceptance. Major George W. Baccus, Chief of the Survey Division of the Quartermaster Board, was the officer in charge of this part of the study, and Major Andrew S. Robson, Commanding Officer, Quartermaster Board Test Team, was in charge of that part done at

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<sup>9</sup>Failure to accomplish the task consisted of giving no responses, giving no reasons, or giving only a very few responses and reasons.

<sup>10</sup>These sixty-eight subjects had participated in a closely related investigation. Since participation in both studies might be a source of bias, these booklets were discarded.

<sup>11</sup>These subjects checked all the items in the "Indifferent" column and, hence, no reasons were given. Such booklets contained no information for this study.

TABLE I  
Questionnaire Summary

	A-EM	A-EW	<u>Stratum</u>		D	F
			B	C		
Total Administered	151	156	160	228	59	90
Discarded:						
Task not Accomplished	8		3	15		
Incomplete	40	17	11	14		11
Wrong Form			3			
All "Indifferent"				5	3	2
In Other Study				68		
Wrong Stratum					7	
Total Usable	103	139	143	126	49	77

Fort Churchill. Experienced test administrators from the Survey Division of the Quartermaster Board were trained in the administration of the task; these men administered all the tasks at Fort Lee. Major Robson was sent a copy of the administrator's manual and a letter of instructions.

At Fort Lee the tasks were administered in or near the company areas of the units from which subjects were drawn. In some cases company Day Rooms were used; in other cases the subjects were assembled in Mess Halls. The task was given to groups of from 25 to 50 subjects. The size of these groups depended upon the size of the room and the availability of writing space. Troop commanders of units from which subjects were drawn were given advance notice of how many of their men would be needed and when and where they were to report. The selection of the individual subjects was left to the discretion of the troop commanders. Total administration time of the task was approximately one hour. Time limits were not placed upon the steps of the task

but recommended time allowances were given in the administrator's manual. At Fort Churchill the task was administered to a group of 90 subjects. Subjects were assembled in the Sergeants' Mess at 1400 hours, 3 April 1952. The task was administered by Major Robson with two officers and one enlisted man as proctors.



## CHAPTER III

### THE RESULTS

The results of this study and their interpretation will be presented in the following sections: (1) characteristics of the samples, (2) analysis of acceptance scores, (3) isolation and definition of the dimensions, (4) interpretation and general discussion and (5) suggestions for future research.

Answers to questions 1, 5, 6, 7 and 8 in the Personal Data Inventory were summarized and are presented in Table II. All of the enlisted grades from Private to First Sergeant are represented in the total sample. All subjects in Strata A-EM and A-EW were Privates since these Strata contained troops in basic training. With the exception of Stratum D, the grades were fairly well distributed in the other strata. Through some accident, 32 of the 49 combat veterans in this stratum were Corporals. Time in the Army in the total sample ranged from one month to over 25 years; time overseas ranged from zero to over 6 years. Strata B, C, D and F contained combat veterans who were awarded Battle Stars for participating in campaigns in both World War II and Korea. The number of Battle Stars awarded individual subjects ranged from 1 to 8.

Answers to questions 9, 10, 11, 14, 15 and 16 are summarized in Table III. This table is a summary of the

TABLE II

## Characteristics of the Samples: Army Experience

	<u>Stratum</u>					
	A-EM	A-EW	B	C	D	F
No. of Individuals	103	139	143	126	49	77
Army Grade:						
Pvt.	103	139	13	38	5	20
Pfc.	0	0	37	29	7	35
Cpl.	0	0	30	50	32	12
Sgt.	0	0	21	7	4	3
Sfc.	0	0	20	1	1	4
M/Sgt.	0	0	22	1	0	3
Ave. No. Months in Army	1.7	1.4	63.9	41.6	62.5	38.6
No. with Overseas Duty	0	0	71	77	49	50*
Ave. No. Mos. Overseas	0	0	46.3	29.8	35.9	14.5*
No. with Combat Experience	0	0	54	48	49	10
Ave. No. Battle Stars	0	0	4	4	4	3
Stars Awarded for:						
World War II	0	0	28	8	3	9
Korea	0	0	15	34	36	0
Both	0	0	11	6	10	1
No. with Supply Experience	0	1	28	22	12	9

\*These figures are misleading because some of these men considered duty at Fort Churchill as overseas duty while others did not.

## Stratum:

A-EM Basic Trainees (Men)  
 A-EW Basic Trainees (Women)  
 B Dress Uniform Troops  
 C Fatigue Uniform Troops  
 D Combat Veterans  
 F Arctic Troops

TABLE III

Characteristics of the Samples: Civilian Background

	Stratum					
	A-EM	A-EW	B	C	D	F
No. Individuals	103	139	143	126	49	77
Ave. Years Schooling (1 thru 12)	10.6	11.9	11.4	9.9	9.8	10.5
No. with College Training	10	25	67	8	0	19
Ave. Years in College	2.8	2.1	3.5	2.2	0	4.2
No. with Trade or Service Schooling	18	12	76	54	24	24
Rural-Urban Background:						
Rural	51	54	47	47	11	34
Small Town	28	56	57	37	20	24
City	11	14	19	14	10	7
Metropolitan Area	13	15	20	28	8	12
*Regional Background:						
New England	5	10	9	8	4	7
Middle Atlantic	14	29	26	26	15	22
East North Central	31	26	29	20	9	16
West North Central	23	15	15	6	0	2
South Atlantic	15	19	24	38	3	14
East South Central	4	11	11	5	2	4
West South Central	7	5	17	17	2	7
Mountain	1	4	4	1	0	1
Pacific	2	18	8	2	3	5
Hawaii		2		1		
Puerto Rico				1		

\*Source of regional categories: Statistical Abstract of the United States, 1944-45, U. S. Department of Commerce, Bureau of the Census.

## Stratum:

A-EM Basic Trainees (Men)  
 A-EW Basic Trainees (Women)  
 B Dress Uniform Troops  
 C Fatigue Uniform Troops  
 D Combat Veterans  
 F Arctic Troops

subjects' civilian backgrounds. Years of schooling ranged from 0 to 12 in the total sample. Two subjects were illiterate, and administrators helped them fill out their task booklets. One of these subjects had completed only 2 years of schooling, and the other one claimed to have had no formal education. College training ranged from less than one semester to over 5 years. Several subjects with Master's degrees were included in Stratum F. The Rural-Urban categories were obtained from Question 14. Subjects who had lived for a major portion of their lives on farms or in towns with populations of less than 5,000 were included in the Rural category; those who had lived in towns with populations of 5,000 to 100,000 were included in the Small Town category; those who had lived in cities with populations of 100,000 to 500,000 were included in the City category; and those who had lived in cities with populations of over 500,000 were included in the Metropolitan category. Subjects were from 45 states, the District of Columbia, Hawaii and Puerto Rico. There were no subjects from New Mexico, Nevada and Wyoming. The categories of Regional Background are those used by the Bureau of the Census in published statistical abstracts of census data.

### Analysis of Acceptance Scores

On Page 3 of the task booklet, subjects checked in appropriate columns those items they thought were good items; those they thought were bad items; and those they could not

decide upon. These responses were transferred to IBM answer sheets and machine scored. An "acceptance" score was produced for each subject by assigning weights of plus 1 to each "Good" response, zero to each "Indifferent" response and minus 1 to each "Bad" response. Since every subject judged 28 items, this score could vary from minus 28 to plus 28. The observed range in the total sample was from plus 28 to minus 18. Frequency distributions of subjects' scores on all items are presented in Table IV. Distributions of scores on the common items are presented in Table V<sup>12</sup>.

Tables IV and V indicate that the basic training troops, both men and women, were more favorably disposed toward the items they judged than were the other troops. Presented in Appendix IV<sup>13</sup> are tables that show the total number of individuals in each stratum who responded to each item in each of the three score categories. The tables indicate that the high acceptance scores of basic training troops resulted from a tendency to respond favorably to most items. Troops in other strata tended to respond indifferently to a large number of the items.

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<sup>12</sup>Scores for Stratum F were not included in Table IV because only the responses to common items were scored. These men were special test subjects and were unfamiliar with many of the specific items.

<sup>13</sup>Acceptance scores for each item could be produced from these tables.

TABLE IV

Frequency Distributions of Acceptance Scores  
Together With the Means and Total Ranges: All Items

Acceptance Scores		<u>Stratum</u>				
		A-EM	A-EW	B	C	D
Plus	26-28	3	2	0	2	0
	23-25	11	4	1	2	2
	20-22	14	13	1	6	0
	17-19	13	16	9	11	3
	14-16	11	30	11	12	4
	11-13	15	22	13	10	3
	8-10	11	20	13	11	7
	5- 7	7	18	25	8	5
	2- 4	10	7	23	20	12
	1- 1	2	3	23	15	4
	2- 4	5	4	15	15	7
	5- 7	0	0	5	6	1
	8-10	1		3	4	1
	11-13	0		1	2	0
Minus	14-16			0	1	
	17-19				1	
	20-21				0	
	23-25					
	26-28					
N		103	139	143	126	49
$\bar{X}$		13.49	12.47	5.25	6.09	5.95
Range		28 to -10	28 to -4	24 to -11	26 to -18	25 to -8

TABLE V

Frequency Distributions of Acceptance Scores  
Together With the Means and Total Ranges:  
Common Items Only

Acceptance Scores		<u>Stratum</u>				
		A-EM	B	C	D	F
Plus	13-14	9		3	2	1
	11-12	20	2	10	1	4
	9-10	18	9	13	3	14
	7- 8	17	13	12	4	6
	5- 6	9	12	10	6	11
	3- 4	10	27	12	9	10
	1- 2	6	23	21	12	11
	0	3	14	6	4	8
	1- 2	5	24	17	4	5
	3- 4	3	13	15	4	5
Minus	5- 6	2	1	6	0	1
	7- 8	1	5	1		1
	9-10	0	0	0		0
	11-12					
	13-14					
N		103	143	126	49	77
$\bar{X}$		6.90	2.00	3.08	3.16	4.11
Range		14 to -7	11 to -7	14 to -8	13 to -4	14 to -7

In Chapter II it was stated as an hypothesis that conditions under which Army equipment is used have an effect upon acceptance. The hypothesis and the effectiveness of the stratification scheme were tested by computing Chi-square from a 4 x 6 contingency table based on the distributions shown in Table V. The test revealed that differences in acceptance scores between the strata were significant at the .001 level of confidence. This result can be interpreted to mean that the stratification system was effective and that conditions of use significantly effect acceptance scores. An examination of the contributions of each individual stratum revealed that Stratum A accounted for 52 percent and Stratum B for 34 percent of the resulting Chi-square. A more definitive analysis of the effects of conditions of use could not be made since the investigation was not designed to rigorously test the hypothesis.

Substantiation of the hypothesis of individual differences in acceptance scores is evident from an inspection of Tables IV and V. The responses to each item in each stratum were tallied into 3 x 28 contingency tables in order to test the third hypothesis that acceptance scores vary from item to item. Chi-squares were computed by a method described by Edwards (9: p. 102 ff.). All of the Chi-squares were significant at the .001 level of confidence indicating that the distributions differed significantly from chance and that acceptance scores varied with the items being judged.



Since it was assumed that the order in which the items were presented would affect acceptance scores, item order was partially confounded by the procedure described in Chapter II. In order to test this assumption, differences between the two item orders in each stratum were tested by computing Chi-squares from 3 x 2 contingency tables. The results, presented in Table VI, reveal that differences between item orders were significant in all but two strata. Further studies of soldier acceptance must be concerned with the variable; item order should be effectively counter-balanced or systematically varied.

TABLE VI  
Analysis of Item Order

Stratum	$\chi^2$	df	P
A-EM	7.50	2	<.05 >.01
A-EW	5.05	2	>.05
B	11.93	2	<.01
C	22.03	2	<.01
D	4.64	2	>.05
F	17.31	2	<.01

#### Isolation and Definition of Dimensions

The reader will recall that the crucial part of the task was, in effect, an interrogation device designed to elicit the reasons underlying judgments that items were good or bad. Subjects recorded their reasons for each item so judged on Page 3 of the task booklet. The method used to

isolate the order and, presumably, the components of acceptance behavior underlying these reasons is described below.

Each statement that was made about an item was typed on a 3 x 5 index card. If an individual subject made more than one statement about an item, cards were made for each of them. For example, if a subject stated that an item was "comfortable and easy to keep clean", the word 'comfortable' was typed on one card; the statement 'easy to keep clean' was typed on another card. If a statement was made for which a card had already been typed, a tally was made on this card. Statements were tallied only if the statement on the card and the statement to be recorded were the same in wording and meaning. All cards were then numbered with identifying codes, one for the stratum and one for the item. The above procedure was followed for each item in each stratum.

A total of 13,090 statements were recorded on 4,693 cards. Presented in Table VII is a summary of the number of individuals, the number of reasons, and the number of cards typed for each stratum. In Stratum F, reasons were recorded for the 14 common items only.

After a card had been prepared for each different statement and stamped with the identification code, all of the cards for a given stratum were thoroughly shuffled and sorted into piles. The number of piles was determined by the number of different subject matters involved in the statements. The cards within a particular pile contained statements that were identical, carried the same meaning or referred positively or

TABLE VII

## Distribution of Reasons Recorded by Stratum

Stratum	Reasons Given	Cards Made	Number Subjects
A-EM	2484	698	103
A-EW	3171	922	139
B	3233	1134	143
C	2319	987	126
D	871	499	49
F	1012	453	77
Total	13090	4693	637

negatively to the subject matter of that pile. Statements that carried no meaning or could not be interpreted and those that could not be classified under any of the subject matter piles were put in a "Miscellaneous" pile.

After the initial sorting, each pile of cards was carefully examined to insure that all statements were correctly classified. In order to properly classify certain statements, it became necessary to examine the code and determine the items about which the statements were made. In the initial sorting, a statement "too big" would have been classified under the subject matter of 'Fit', but if the statement had been made with reference to an item like the Canteen Cup, it was placed in another category. After each pile had been examined, it was tentatively identified in terms of the subject matter to which all the statements within it referred. For example, a pile of cards containing statements about the color of items was labeled "Color".

In order to check the adequacy of the sorting and to get some estimate of the reliability of the process, the cards were sorted by two sets of judges. One set consisted of two professors of psychology, and the other consisted of two graduate students in psychology. The cards were given to the first set of judges who sorted them together as a team. Their disagreements with the investigator's classifications were recorded; the cards were placed back in the original order and were then given to the other judges who also sorted them together. This procedure was followed on the cards for three strata, A-EM, A-EW and D. It was discontinued at this point because no additional categories were found.

Since the number of disagreements was so small, it was felt that the categories were stabilized and the process sufficiently reliable. There was disagreement from the investigator's classifications on 299 cards out of a total of 2073. For 120 of the cards, the classifications of the two judging teams were in agreement but were different from the investigator's. For the remaining 159 cards, the classifications of one of the judging teams were the same as the investigator's. Complete disagreement occurred only on 20 of the cards.

The cards on which there was disagreement among all three judges were reclassified into the Miscellaneous category; cards upon which the two judging teams agreed were reclassified according to their sorting; and cards on which at

least one of the judging teams agreed with the investigator were replaced in their original categories. The cards for the other three strata were then carefully checked to insure that they conformed to this final categorization.

The procedure described above was designed to isolate the sets underlying subjects' judgments about items. These sets are the criteria against which the items were judged, or the dimensions of acceptance in terms of which the items were judged. The net result of the procedure was the isolation of 18 dimensions of soldier acceptance. These dimensions were defined in terms of the sets underlying the judgments and in terms of the reasons classified under each dimension. Definitions of the dimensions, along with identifying code letters and names, are presented in the following paragraphs.

Dimension A. Appearance. Reasons classified under this dimension reflected that subjects were concerned with the general outward appearances of clothing items. Items were judged in terms of whether they presented a neat or untidy appearance, whether they were suitable for dress uniform purposes, whether they looked good, etc. Examples of some reasons given are: "looks sharp", "not very neat looking", "it makes the uniform look better", "don't look dressy", "makes the soldier look better".

Dimension B. Style. Reasons classified under this dimension reflected that subjects were concerned with the general styling of clothing items. Items were judged in terms

of whether the style was liked or disliked, whether the style was thought to be good or bad, etc. Examples of reasons given are: "nicely styled", "stylish", "do not like the style", "well tailored", "obsolete in style".

Dimension C. Color. Reasons classified under this dimension reflected that subjects were concerned with the color of items, both clothing and equipment. Items were judged in terms of whether the color was thought to be appropriate or in terms of personal preferences. Examples of reasons given are: "should be white in color", "don't like the color", "good color".

Dimension D. Fit. Reasons classified under this dimension reflected that subjects were concerned with the fit of clothing items. Items were judged in terms of whether or not they fitted properly as indicated by statements such as: "good fit", "do not fit properly", "too big", "do not stay up right", "don't fit properly".

Dimension E. Personal Comfort. Reasons classified under this dimension reflected that subjects were concerned with their own personal comfort. Items were judged in terms of whether they contributed to or maintained bodily comfort or whether they were the cause of some type of discomfort. The dimension was divided into three fairly distinct sub-categories:

1. Comfortable-Uncomfortable. Reasons classified under this category were simple statements that an item was "comfortable" or "uncomfortable".

2. Bodily Discomfort. Reasons classified under this category reflected concern with whether or not items contributed to or caused some type of bodily discomfort. For example, "it itches", "hurts feet", "do not creep up into crotch", "make feet sweat too much".

3. Bodily Comfort Under Weather Conditions. Reasons classified under this category reflected concern with whether or not items would maintain personal comfort and well being under different weather conditions. For example, "it keeps me warm", "too hot in summer", "does not keep you dry", "not warm enough", "cool", "keeps rain off you".

Dimension F. Personal Protection. Reasons classified under this dimension reflected that subjects were concerned with their own personal protection. Items were judged in terms of whether or not they offered general protection, whether or not they protected the individual from injury, etc. The dimension was sub-divided into three categories.

1. General Protection. Statements classified under this category reflected a concern with protection in general. Reasons given stated that an item was "good protection", "not enough protection", etc., and no references were made to who or what was being protected.

2. Bodily Protection. Statements classified under this category reflected a concern with whether or not items afforded protection from bodily harm and injury. Examples of reasons given are: "protects the body", "protects hands",

"keeps you from getting killed", "protects your head in combat".

3. Protection from Weather. Statements classified under this category reflected concern with whether an item protected the individual from weather conditions. For example: "protection against bad weather", "protects you from cold weather", "protects your head from the sun and rain".

Dimension G. Item Quality. Reasons classified under this dimension reflected that subjects were concerned with the general quality of individual items. Items were judged in terms of the following five features:

1. Quality of the Material. Reasons classified under this category reflected a concern with the quality of the materials from which items were constructed. For example: "good material", "poor material", "rusts too easily", "shrinks when washed", "fades too easily".

2. Quality of Construction. Reasons classified under this category were concerned with the quality of the construction of items. Examples of reasons given are: "poor construction", "well made", "not put together very good".

3. Durableness of the Item. Reasons classified under this category were one or two word statements that items were or were not "durable".

4. Ruggedness of the Item. Reasons classified under this category reflected a concern with whether or not



items would stand up under rough wear and use. Examples of statements are: "will take a beating", "good for rough wear", "rugged", "does not break easily".

5. Quality of Wear. Reasons classified under this category reflected a concern with the wearing qualities of items. For example, "wears out too easily", "long lasting", "wears long", "long wearing".

Dimension H. Item Usefulness. Reasons classified under this dimension reflected that subjects were concerned with the usefulness of items. Examples of reasons given are: "handy", "useful", "convenient", "practical", "useful for many things". Statements that items were useful for purposes other than those for which they were primarily designed were classified under this dimension.

Dimension I. Item Effectiveness. Reasons classified under this dimension reflected that subjects were concerned with how well items served their purposes. Examples of such reasons are: "serves its purpose", "does not serve its purpose well". Many subjects stated that an item was good for some specific purpose -- the purpose being stated. If the purpose stated was that for which the item was designed, such statements were classified under this dimension. For example, a statement that the Duffel Bag was "good for carrying clothes" was classified under Dimension I.

Dimension J. Necessity. Reasons classified under this dimension reflected that items were judged in terms of whether they were essential or necessary. Such statements

as "essential", "a necessary item", "you need it", and statements that an item was necessary for a specific purpose were classified under Dimension J. Examples of the last type of statements are: "necessary for carrying water", "necessary for combat".

Dimension K. Maintenance. Reasons classified under this dimension reflected that items were judged in terms of the relative ease or difficulty with which they could be maintained in a presentable condition. Examples of such statements are: "easy to clean", "hard to keep clean", "won't hold a press", "costs too much to keep presentable".

Dimension L. Ease of Handling and Carrying. Reasons classified under this dimension reflected that items were judged in terms of the relative ease with which they could be handled or carried.

Dimension M. Interference With Activities. Reasons classified under this dimension reflected that items were judged in terms of the extent to which they interfered with or facilitated free movement and the performance of certain activities. For example, "allows easy movement", "gets in the way", "interferes with walking and running".

Dimension N. Ease of Wearing. Reasons classified under this dimension reflected that items were judged in terms of the relative ease or difficulty with which they could be donned and doffed, and whether they were easy or hard to wear. Examples of such statements are: "easy to wear", "too much trouble to wear", "too hard to put on and take off".

Dimension O. Design Aspects. Reasons classified under this dimension reflected that subjects were concerned with certain specific features of individual items. Examples of such statements are: "too many pockets", "good because it locks", "pockets too baggy", "old type with buckles no good".

Dimension P. Physical Dimensions. Reasons classified under this dimension reflected that subjects were concerned with the physical dimensions of equipment items. Items were judged in terms of size, length, etc.

Dimension Q. Weight. Reasons classified under this dimension reflected that subjects were concerned with the weight of items, both clothing and equipment. Items were judged in terms of whether they were heavy or light, or too heavy or too light.

Dimension R. Protection for Clothing and Equipment. Reasons classified under this dimension reflected that items were judged in terms of whether or not they afforded protection to other items of clothing and equipment.

Of the total number of reasons given by all subjects, 95.3 percent were classified under the above dimensions; the remaining statements were not classifiable and were put into a Miscellaneous category. Some of these statements carried no meaning; others could not be interpreted, and still others were simple statements of personal preference. Examples of such statements are: "a good item", "nice", "okay", "I like it", "I never wear ties", "a necessary essential". Statements upon which none of the three original sortings agreed

were also classified in the Miscellaneous category. Table VIII shows the proportion of reasons given by each stratum that were classified "Miscellaneous".

TABLE VIII  
Distributions of Miscellaneous Reasons by Stratum

Stratum	Total No. Reasons	Number Unclassified	Proportion Unclassified
A-EM	2484	103	.041
A-EW	3171	119	.038
B	3233	188	.058
C	2319	106	.046
D	871	58	.067
F	1012	37	.037
All Strata	13090	611	.047

### Interpretation and General Discussion

After the dimensions were defined, additional analyses were made in an attempt to determine their significance, and to estimate the validity of the method. The analyses were not exhaustive but were designed to demonstrate the effectiveness of the method and to suggest possibilities for research.

The cards classified under each dimension in each stratum were examined to determine what items appeared under each dimension and how often they appeared. This was done to determine which dimensions were used for judging each item, and the frequencies with which the dimensions were used. Tables containing these raw frequencies are presented in Appendix IV. In order to crystallize the information contained in these tables, they were combined in two ways, and

the frequencies were converted into proportions. The first combination, Table IX, is an item by dimension analysis in which the strata were combined. The table was produced by combining Strata A-EM, B, C, D and F, computing the total number of reasons given under each dimension, and determining what proportion of these reasons were given for each individual item. The table is read as follows: For Item 1, the figure in the first row indicates that 38 percent of all reasons given for the Garrison Cap were concerned with Appearance; the figure in the second row means that 11 percent of all reasons given for the Garrison Cap were concerned with Style, etc.

Table IX shows the relative frequencies with which each of the dimensions were used for each of the common items. It can be seen, for example, that for Item 7, the Blanket, 65 percent of the statements about the item were concerned with Dimension E, Personal Comfort. This means that for this sample of soldiers the most important criterion for judging the Blanket is Personal Comfort. Table IX also shows some of the relationships among both the items and the dimensions. For example, all items were judged, to some degree, in terms of Dimension I, Item Effectiveness, while only a few were judged in terms of Dimension R, Protection for Clothing and Equipment. It will also be noted that Items 3, 5, 10, 13; the Fatigue Jacket, the Raincoat, the Cotton Undershirt and the Fatigue Trousers, were judged in terms of fifteen dimensions while Item 6, the Duffel Bag, was judged in terms of eight.

TABLE IX

Proportions Showing Frequency of Use of Dimensions for Common Items: All Strata Combined

Dimensions	<u>Items</u>													
	1	2	3	4	5	6	7	8	9	10	11	12	13	14
A	.38		.05	.05	.10				.02	.03	.04	.07	.04	.43
B	.11	.03	.01		.02						.01		.02	.01
C	.01	.03	.01				.01			.02			.01	.16
D	.01	.10	.07	.01	.05				.05	.02	.02	.03	.03	.04
E	.07	.40	.17	.33	.35		.65	.04	.18	.46	.42	.38	.14	.04
F	.01			.10	.08		.02	.49	.26	.01	.09	.13	.01	
G	.03	.17	.22	.22	.05	.10	.08	.03	.07	.18	.06	.16	.26	.12
H	.02		.04	.02	.01	.05	.01	.07	.02	.01	.04	.03	.05	.01
I	.02	.05	.16	.10	.16	.49	.03	.04	.11	.05	.16	.10	.19	.05
J	.02	.02	.01	.01	.02	.01	.01	.01	.03	.03				.01
K	.04	.05	.05	.05			.04			.06	.02		.06	.06
L	.11	.01			.01	.14	.01			.01				
M		.03	.02		.03			.01	.01	.01	.01	.03	.01	
N	.02	.04	.01	.04	.01			.01	.03	.02	.01		.03	.02
O		.04	.07	.02	.01	.05	.01	.01	.02	.02	.03	.04	.15	
P						.08	.03							.02
Q	.13	.04	.06	.03	.08		.08	.27	.19	.07	.07	.01	.02	.02
R			.01		.03	.06							.01	

The other combination produced from the tables in Appendix IV was a stratum by dimension analysis in which the items were combined. Table X is the analysis in which the 14 common items were combined; Table XI is the same analysis in which all items were combined. These tables were produced by computing the total number of reasons given for each item and determining what proportion of these reasons fell under each dimension. Table X is read as follows: For Stratum 1, A-EM, the figure in the first row indicates that 9.7 percent of all reasons given for this item by subjects in this stratum were concerned with Dimension A, Appearance. The first figure in the column headed "All Strata" indicates that 7.6 percent of all reasons given by all subjects were concerned with Dimension A, Appearance. Table XI, which contains Stratum A-EW, is read in the same manner.

Tables X and XI indicate the relative importance of the dimensions for each stratum and for all strata. They show, for example, that Dimension E, Personal Comfort, is the most important dimension for all strata. The zero entries in these tables are also quite interesting. In Stratum A-EM, Basic Trainees, items were never judged in terms of Dimension N, Ease of Wearing. In Stratum D, Combat Veterans, four dimensions were never used. These were Dimension B, Style; Dimension J, Necessity; Dimension M, Interference with Activities and Dimension P, Physical Dimensions. Such evidence indicates that there are subtle differences between strata which are not revealed by an analysis of raw acceptance scores.

TABLE X

Proportions Showing Relative Importance of  
Dimensions for Strata: Common Items Combined

Dimensions	A-EM	B	C	D	F	All Strata
A	.097	.070	.083	.072	.056	.076
B	.005	.017	.020	.000	.022	.013
C	.008	.015	.016	.013	.015	.013
D	.035	.035	.044	.009	.029	.030
E	.339	.200	.259	.257	.294	.270
F	.109	.069	.080	.131	.062	.090
G	.104	.176	.112	.135	.114	.128
H	.023	.021	.023	.043	.044	.031
I	.112	.141	.187	.115	.090	.129
J	.023	.018	.013	.000	.010	.013
K	.043	.026	.012	.022	.045	.030
L	.013	.014	.022	.020	.031	.020
M	.004	.036	.011	.000	.015	.013
N	.000	.013	.002	.038	.026	.016
O	.025	.055	.023	.038	.023	.033
P	.004	.023	.008	.000	.009	.009
Q	.044	.066	.073	.097	.107	.077
R	.011	.002	.009	.009	.008	.008



TABLE XI

Proportions Showing Relative Importance of  
Dimensions for Strata: All Items Combined

Dimensions	A-EW	A-EM	B	C	D	F	All Strata
A	.138	.117	.059	.078	.088	.056	.089
B	.032	.008	.016	.013	.000	.022	.015
C	.019	.010	.014	.016	.018	.015	.015
D	.009	.031	.027	.036	.018	.029	.025
E	.262	.344	.239	.248	.245	.294	.272
F	.083	.081	.080	.055	.091	.062	.075
G	.042	.083	.143	.108	.106	.114	.099
H	.050	.027	.024	.040	.040	.044	.038
I	.125	.135	.156	.230	.124	.090	.143
J	.112	.030	.021	.017	.000	.010	.032
K	.061	.042	.036	.019	.049	.045	.042
L	.014	.014	.017	.022	.024	.031	.020
M	.004	.005	.030	.016	.000	.015	.012
N	.004	.000	.009	.003	.044	.026	.014
O	.005	.025	.047	.017	.030	.023	.024
P	.009	.011	.024	.010	.014	.009	.013
Q	.019	.031	.057	.063	.071	.107	.058
R	.013	.006	.001	.009	.032	.008	.012

In view of the fact that soldiers moving into front line combat are prone to discard much of their clothing and equipment, it is very meaningful that none of the combat veterans in Stratum D judged items in terms of Necessity.

The results up to this point indicate that there is significant evidence that the method developed was effective, and that the task produced the data it was designed to produce. Table I indicated that only a very small proportion of the total number of subjects was unable to accomplish the task successfully. The fact that over 95 percent of the reasons elicited by the task were capable of being classified into meaningful categories indicates that the method produced meaningful data. That the order underlying these reasons was isolated by the classification process is indicated by the fact that a finite number of dimensions were isolated which generalized across strata and across items. Tables IX, X and XI indicate that the dimensions isolated are meaningful and are not artifacts produced by the method. Even the gaps in Table IX are meaningful. For example, Item 6, the Duffel Bag, was never judged in terms of the first six dimensions (the first six dimensions are Appearance, Style, Color, Fit, Personal Comfort and Personal Protection). It is also no accident that the same table reveals that the most important dimensions used to judge Item 8, the Steel Helmet, were F (Personal Protection) and Q (Weight).

In addition to the above evidence two additional analyses were made in an attempt to estimate the significance of the

dimensions and to obtain an independent estimate of the reliability of the process used to isolate them. The first of these analyses consisted of an attempt to apply the Guttman (26) method of scale analysis to portions of the data. Ten of the common items having the largest proportions under Dimension E, Personal Comfort, were ordered on the basis of the marginal totals of the total sample. The "Indifferent" and "Bad" score categories were combined for this ordering. Rather than attempt a complete scale analysis on the total of 637 subjects, it was planned to operate on the assumption that if this was a predetermined order and if Personal Comfort was a "real" dimension, the subjects in any of the strata should scale on these items with a fairly high coefficient of reproducibility. A method for quickly obtaining the coefficient of reproducibility by the use of an IBM Test Scoring Machine was developed. The method is described in Appendix V. Subjects in Stratum D, Combat Veterans, scaled on this item order with a coefficient of reproducibility of .79. The items were then ordered on the basis of the marginal totals of these subjects with a resulting coefficient of .83. There were indications that a complete scale analysis would not appreciably raise the coefficient so this phase of the analysis was halted.

As a result of the above analysis, it was concluded that scale analysis was not an appropriate test of significance for the dimensions isolated in this study. The individual items of clothing and equipment are "multidimensional" in

the sense that more than one dimension can be used for making judgments about them. The hypothesis was formulated that if individuals are asked to express opinions about items of equipment which are "multidimensional", their responses will be scalable if the dimension to be used for their judgments is specified. There is reason to believe that the hypothesis also applies to attitude questionnaire items. If subjects are given a set and are not asked to supply their own sets as in this study, their responses will scale.

The hypothesis is testable but it was not possible to use the data of this study for a rigorous test. It was thought that if a set of items could be found that were judged in terms of only one dimension, and the same dimension was used for the whole set of items, it would be possible to test it. It was found, however, that such a set of items could not be found. An approximate test of the hypothesis was attempted by selecting two groups of individuals who tended to predominately use Personal Comfort as the basis for their judgments about the items used in the scale analysis described previously. One group of subjects were selected from Stratum A and another group from Stratum B. Stratum A was selected because the proportion of Personal Comfort reasons was highest in this stratum; stratum B was selected because its proportion was lowest. These two groups were then scaled using the same set of items and the same item order as was used in the first analysis. The coefficient of reproducibility for the Stratum A group was .85; for the

Stratum B group it was .77, and for the two combined it was .82. While this by no means represents a definitive test of the hypothesis, it does indicate that a rigorous test should be made. These results are difficult to interpret, but it is safe to assume that until the hypothesis has been checked out, scale analysis cannot be used to test the significance of the dimensions of this study.

The second analysis was an independent estimate of the reliability of the process by which the dimensions were isolated. Three judges were given definitions of the dimensions and scoring instructions, and asked to apply the dimension code to the original statements made by a sample of subjects. Two of these judges participated in the original classification of the cards. The reliability of the classification process was estimated by computing the percentage of overlap or agreement between the judges' and the investigator's codings of the original reasons<sup>12</sup>. The correlations between the investigator's coding and those of the individual judges were as follows: (a) .88 between the investigator and the judge who did not participate in the sorting process, (b) .89 between the investigator and one judge who participated in the sorting and (c) .85 between the investigator and the other judge who took part in the original sorting. The correlation between all of the judges combined and the

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<sup>12</sup>A method of determining correlation based upon the percentage of overlapping elements is described in J. P. Guilford, Psychometric Methods. (New York: McGraw-Hill, 1936) p. 364.

investigator was .88. The consistency and the magnitude of these correlations indicate that the sorting process was sufficiently reliable.

### Suggestions for Future Research

In a very real sense the investigation has been a hypothesis producing rather than a hypothesis testing study. It has produced data which contain much more information than has been specified in the foregoing discussions, and it has important implications for future research. Future research stemming from the study should follow two lines of investigation. One of these should be concerned with the practical problem of soldier acceptance, and the other should be concerned with the theoretical implications contained in the study. With respect to the practical problem, so many possibilities are suggested that only the more important ones will be pointed out.

1. An analysis should be made of the effects of Conditions of Use, Item Differences and Individual Differences upon acceptance scores. It is evident that the acceptance scores used in this study were the result of the complex interaction of these variables.

2. The relationships between acceptance behavior and certain other variables should be specified. Some of the more important of these are the relationships between acceptance and time in the Army, acceptance and rank, acceptance overseas and combat experience, acceptance and certain

aspects of civilian background and acceptance and supply experience.

3. An analysis should be made of intra-individual differences in the use of these dimensions for making judgments about certain items of equipment.

4. Studies should be undertaken to determine the reliability and validity of the dimensions with the view of establishing them as criterion variables for the prediction of soldier acceptance.

5. There are indications in the study that acceptance changes as a function of experience with a particular item. This hypothesis should be tested.

Important theoretical problems are raised that should be investigated. The hypothesis concerning "multidimensional" items has important implications for the future use of both scale analysis and factor analysis. If the hypothesis is correct, changes may be necessary in the use of these techniques. The hypothesis can be tested and should be accomplished in order to clarify some of the problems connected with the analysis of qualitative data.

A recent paper by Andrews (2) indicates that it may be possible to use factor analysis to isolate the dimensions involved in complex qualitative judgments. The possible application of his technique to the type of data produced by the method used in this study should be explored. The combination of his technique with the task developed in this study could possibly produce an effective method of attacking the dimensionality problem.

## CHAPTER IV

### SUMMARY AND CONCLUSIONS

This investigation was an attempt to develop a general method of attacking specific criterion problems at high levels of generality.

A theoretical approach was formulated which held that the logical first step in the development of predictive systems was an analysis of the behavior the system is designed to predict. In order to demonstrate that such an approach was feasible, an attempt was made to develop a method of isolating basic components of complex behavior patterns.

A modification of the nominating technique was used as an interrogation device to elicit the reasons underlying the judgments of Army personnel that certain items of clothing and personal equipment were acceptable or not acceptable. An analysis of the elicited reasons was made which resulted in the isolation of eighteen dimensions of soldier acceptance. Analyses of these dimensions, including three by the Guttman scale analysis technique, were made in an attempt to determine their significance and to shed some light upon their complex inter-relationships. Two areas of future research were suggested; one concerned with more definitive analyses of the dimensions isolated by this study with the view of determining their validity as criterion variables for predicting soldier acceptance and the other concerned with the



refinement of this method or the development of better methods of isolating valid criterion variables.

Since this investigation was primarily a hypothesis producing rather than a hypothesis testing study, the conclusions are stated in the form of hypotheses.

1. The first step in the development of a valid predictive system is the isolation of dimensions of the behavior that is to be predicted.

2. A method of isolating dimensions of behavior can be developed which can be applied to a variety of criterion problems.

3. Dimensions of soldier acceptance have been isolated which can be used as valid criterion variables for the prediction of acceptance.

4. The dimensions of soldier acceptance are a function of the complex interactions of Conditions of Use, Individual Differences and Item Differences.

## SELECTED BIBLIOGRAPHY

1. Adams, S. Does face validity exist? Educ. psychol. Measmt., 1950, 10, 320-328.
2. Andrews, T. G. Multidimensional psychophysics: A new research method. Paper presented at March 1952 Convention of the Eastern Psychological Association.
3. Bellows, R. M. Procedures for evaluating vocational criteria. J. appl. Psychol., 1941, 25, 499-513.
4. Blankenship, A. B. Consumer and Opinion Research. New York: Harper and Brothers, 1943. 238pp.
5. Cattell, R. B. Description and Measurement of Personality. New York: World Book Company, 1946.
6. Churchman, C. W., Ackoff, R. L. and Wax, M. (Eds.). Measurement of Consumer Interest. Philadelphia: University of Pennsylvania Press, 1947. 214pp.
7. Dever, E. J. Have you tried psychological research? Printer's Ink, Jan. 1947, 218, 29-32.
8. Dudek, F. J. The dependence of factorial composition of aptitude tests upon population differences among pilot trainees: II. The factorial composition of test and criterion variables. Educ. psychol. Measmt., 1949, 9, 95-104.
9. Edwards, A. L. Experimental Design in Psychological Research. New York: Rinehart and Company, Inc., 1950. 446pp.
10. Fleishman, E. A. An experimental consumer panel technique. J. appl. Psychol., 1951, 35, 133-135.
11. Franzen, R. and Teilhet, D. A method for measuring product acceptance. J. Marketing, 1940, 5, 156-161.
12. Guilford, J. P. New standards for test evaluation. Educ. psychol. Measmt., 1946, 6, 427-438.
13. Gulliksen, H. Intrinsic validity. Amer. Psychol., 1950, 5, 511-517.

14. Horst, P. The prediction of personal adjustment. Bulletin 48, Social Science Research Council, 1941.
15. Jenkins, J. G. Validity for what? J. con. Psychol., 1946, 10, 93-98.
16. Johnson, G. C. Effective marketing begins on the design board. J. Marketing, 1948, 13, 32-36.
17. Kornhauser, A. W. and Lazarsfeld, P. F. The Techniques of Marketing Research. New York: McGraw-Hill Book Company, 1935.
18. La Clave, F. Fundamentals of marketing research. Printer's Ink, Feb. 1945, 210, 26-30.
19. Lauer, A. R. Improvement of test criteria. Proc. Iowa Acad. Sci., 1947, 54, 239-241.
20. Long, W. F. and Lawshe, C. H., Jr. The effective use of manipulative tests in industry. Psychol. Bull., 1947, 44, 130-148.
21. Peel, E. A. A new method for analyzing aesthetic preferences: Some theoretical considerations. Psychometrika, 1946, 11, 129-137.
22. Richardson, M. W. Multidimensional psychophysics. Psychol. Bull., 1938, 35, 659-660.
23. Schlosberg, H. A well controlled method of evaluating consumer's goods. J. appl. Psychol., 1941, 25, 401-407.
24. Smith, E. R. Comments on some major problems in marketing research and opinion surveys. Int. J. Opin. Attitude Res., 1948, 2, 582-584.
25. Stonborough, J. H. W. Fixed panels in consumer research. J. Marketing, 1942, 7, 129-138.
26. Stouffer, S. A., Guttman, L., Suchman, E. A., Lazarsfeld, P. F., Star, S. A. and Clauser, J. A. Measurement and prediction. Princeton: Princeton University Press, 1950. 756pp.
27. Stuit, D. B. The effect of the nature of the criterion upon the validity of aptitude tests. Educ. psychol. Measmt., 1947, 7, 671-676.
28. Stuit, D. B. and Wilson, J. T. The effect of an increasingly well defined criterion on the prediction of success at Naval Training School (Tactical Radar). J. appl. Psychol., 1946, 30, 614-623.

29. Thorndike, R. L. Personnel Selection. New York: Wiley and Sons, Inc., 1949.
30. Thurstone, L. L. The prediction of choice. Psychometrika, 1945, 10, 237-253.
31. Thurstone, L. L. Experimental methods in food tasting. J. appl. Psychol., 1951, 35, 141-145.
32. Torgerson, W. S. A theoretical and empirical investigation of multidimensional scaling. Research Bulletin 51-14, Educational Testing Service, 1951.
33. Van Dusen, A. C. Importance of criteria in selection and training. Educ. psychol. Measmt., 1947, 7, 498-504.
34. Weintz, W. This plan will cut new product guessing. Printer's Ink Weekly, Dec. 1939, 189, 35-43.
35. Womer, S. Some applications of the continuous consumer panel. J. Marketing, 1944, 9, 132-136.
36. Young, G. A note on multidimensional psychophysical analysis. Psychometrika, 1941, 6, 331-333.

## **APPENDIX I**

### **Master Lists and Item Lists**

## INDEX OF MASTER LISTS

1. Master List No. 1 .....Items Common To All Lists
2. Master List No. 2 .....Items For Stratum A - EM  
(Troops in Training)
3. Master List No. 3 .....Items For Stratum A - EW  
(Troops in Training)
4. Master List No. 4 .....Items For Stratum B - EM  
(Troops in Dress Uniform)
5. Master List No. 5 .....Items For Stratum C - EM  
(Fatigue Uniform)
6. Master List No. 6 .....Items For Stratum D - EM  
(Combat Veterans)
7. Master List No. 7 .....Items For Stratum E - EM  
(Potential Combat Units)
8. Master List No. 8 .....Items For Stratum F - EM  
(Environmental Extremes)
9. Master List No. 9 .....Cross Reference List of Items

## Master List No. 1

## ITEMS COMMON TO ALL LISTS

- \* 1. Cap, garrison (M-all zones; Khaki in I, II, III, V; OD in III, V, VI, VII) (Garrison Cap, od)
- 2. Necktie, cotton, mohair, OD-51 (M-all zones) (Necktie, OD-51)
- 3. Drawers, cotton, od (M-all zones) (Cotton Drawers)
- 4. Undershirt, cotton, quartersleeve, od (M-all zones) (Cotton Undershirt)
- \* 5. Jacket, herringbone twill, od-7 (Fatigue Jacket)
- \* 6. Trousers, herringbone twill, od-7 (Fatigue Trousers) (Both Jacket and Trousers M-zones III, IV, V, VI; D-zone VII. In zones I and II substitute Jacket and Trousers, lightweight, special.)
- 7. Jacket, field, M-1943 (M-zones II through VII; D-zone I) (Field Jacket)
- 8. Raincoat, synthetic-rubber coated, dismounted (D-all zones ILO Poncho) (Raincoat)
- 9. Glove-shells, leather, M-1949 (M-zones III through VII; NI-zones I and II) (Leather Gloves)
- \*10. Boots, combat (M-all zones; service, russet zones II through VII; tropical zone I) (Combat Boots)
- 11. Helmet, steel, M-1 (D-all zones) (Steel Helmet)
- 12. Liner, helmet, M-1 (D-all zones) (Helmet Liner)
- 13. Bag, duffel, with handle and carrying strap (M-all zones) (Duffel Bag)
- 14. Blanket, wool, od, M-1934 (M and/or D-all zones) (Blanket, od)

NOTE: Meaning of symbols: M-mandatory issue; D-discretionary issue; NI-not issued; ILO-in lieu of; Zones-clothing allowance zones as specified in T/A 21 (Mbl) Department of the Army, 26 January 1950. Reasons for stars are self-explanatory.

Names in parentheses will be used on lists presented to subjects.

## Criteria for selection of above items:

- 1. At least one item must be selected from the following types: Headwear, neckwear, underwear, innerwear, outerwear, overwear, handwear and footwear.
- 2. Items must be mandatory or discretionary issue in all zones. Lists presented to subjects must not contain any items not issued to that subject.
- 3. Items must be apportioned between clothing and personal equipment in approximately a 2 to 1 ratio.
- 4. List must contain items which, a priori, appear likely to be selected in all three score categories.

## Master List No. 2

## ITEMS FOR STRATUM A - EM

1. Cap, garrison, od (M) (Garrison Cap, od)
2. Necktie, cotton, mohair, OD-51 (M) (Necktie, OD-51)
3. Drawers, cotton, od (M) (Cotton Drawers)
4. Undershirt, cotton, quartersleeve, od (M) (Cotton Undershirt)
5. Jacket, herringbone twill, od-7 (M) (Fatigue Jacket)
6. Trousers, herringbone twill, od-7 (M) (Fatigue Trousers)
7. Jacket, field, M-1943 (M) (Field Jacket)
8. Raincoat, synthetic-rubber coated, dismounted (D) (Raincoat)
9. Glove-shells, leather, M-1949 (M) (Leather Gloves)
10. Boots, combat, service, russet (M) (Combat Boots)
11. Helmet, steel, M-1 (D) (Steel Helmet)
12. Liner, helmet, M-1 (D) (Helmet Liner)
13. Bag, duffel, with handle and carrying strap (M) (Duffel Bag)
14. Blanket, wool, od, M-1934 (D) (Blanket, od)
15. Hood, jacket and overcoat, field (M) (Jacket Hood)
16. Drawers, winter, 50% cotton, 50% wool (M) (Wool Drawers)
17. Trousers, field, wool, od (M) (Wool Trousers, dress)
18. Jacket, field, wool, od (M) (Wool Jacket, Ike)
19. Overcoat, wool, od (M) (Overcoat)
20. Socks, wool, cushion sole (M) (Wool socks)
21. Necklace, identification tag, w/extension (M) (Necklace, dogtag)
22. Canteen, M-1910 (D) (Canteen)
23. Bag, barrack, od (M) (Barrack Bag)
24. Towel, turkish, od, large (M) (Bath Towel, od)
25. Cup, canteen (D) (Canteen Cup)
26. Shirt, flannel, od, stand-up collar (M) (Wool Shirt, dress)
27. Undershirt, winter, 50% cotton, 50% wool (M) (Wool Undershirt)
28. Sweater, high-neck (M) (Sweater, high-neck)



## Master List No. 3

## ITEMS FOR STRATUM A - EW

1. Cap, garrison, wool, od, shade 37, women's (M)  
(Garrison Cap, od)
2. Cap, field, cotton, od, w/visor (D) (Fatigue Cap)
3. Necktie, cotton, mohair, OD-51 (M) (Necktie, OD-51)
4. Scarf, women's, dress (M) (Scarf, dress)
5. Panties, women's, summer (M) (Summer Panties)
6. Slip, women's (M) (Slip)
7. Skirt, women's, wool, od, shade 37 (M) (Wool Skirt)
8. Waist, cotton, women's, M-1948 (M) (Cotton Waist)
9. Slacks, women's, wool, dark, od (M) (Wool Slacks)
10. Coat, women's, wool, od, shade 37 (M) (Wool Coat, dress)
11. Overcoat, field, women's (M) (Overcoat)
12. Raincoat, parka type, women's (M) (Raincoat)
13. Glove-shells, leather, M-1949 (D) (Leather Gloves)
14. Anklets, wool, women's (M) (Wool Anklets)
15. Stockings, nylon, women's (M) (Nylons)
16. Shoes, field, women's, composition sole (M) (Field Shoes)
17. Shoes, women's, M-1949 (M) (Dress Shoes)
18. Sweater, women's, M-1949 (M) (Sweater)
19. Bag, utility, women's (M) (Utility Bag)
20. Helmet, steel, M-1 (D) (Steel Helmet)
21. Liner, helmet, M-1 (D) (Helmet Liner)
22. Bag, barrack, OD (M) (Barrack Bag)
23. Bag, duffel, with handle and carrying strap (M)  
(Duffel Bag)
24. Blanket, wool, od, M-1934 (M) (Blanket, od)
25. Necklace, identification tag, w/extension (M)  
(Necklace, dogtag)
26. Towel, turkish, od, large (M) (Bath Towel, od)
27. Canteen, M-1910 (D) (Canteen)
28. Cup, canteen (D) (Canteen Cup)

## Master List No. 4

## ITEMS FOR STRATUM B - EM

1. Cap, garrison, od (M) (Garrison Cap, od)
2. Necktie, cotton, mohair, OD-51 (M) (Necktie, OD-51)
3. Drawers, cotton, od (M) (Cotton Drawers)
4. Undershirt, cotton, quartersleeve, od (M) (Cotton Undershirt)
5. Jacket, herringbone twill, od-7 (M) (Fatigue Jacket)
6. Trousers, herringbone twill, od-7 (M) (Fatigue Trousers)
7. Jacket, field, M-1943 (M) (Field Jacket)
8. Raincoat, synthetic-rubber coated, dismounted (D) (Raincoat)
9. Glove-shells, leather, M-1949 (M) (Leather Gloves)
10. Boots, combat, service, russet (M) (Combat Boots)
11. Helmet, steel, M-1 (D) (Steel Helmet)
12. Liner, helmet, M-1 (D) (Helmet Liner)
13. Bag, duffel, with handle and carrying strap (M) (Duffel Bag)
14. Blanket, wool, od, M-1934 (D) (Blanket, od)
15. Glove-inserts, wool, M-1949 (M) (Wool Gloves)
16. Drawers, winter, 50% cotton, 50% wool (M) (Wool Drawers)
17. Cap, field, cotton, od w/visor (M) (Fatigue Cap)
18. Socks, wool, cushion sole (M) (Wool Socks)
19. Overcoat, wool, od (M) (Overcoat)
20. Hood, jacket and overcoat, field (M) (Jacket Hood)
21. Pouch, first aid, packet (M) (First Aid Pouch)
22. Tag, identification, M-1940 (M) (Dogtags)
23. Towel, turkish, od, large (M) (Bath Towel, od)
24. Tent, shelter half (D) (Shelter Half)
25. Canteen, M-1910 (D) (Canteen)
26. Sweater, high-neck (M) (Sweater, high-neck)
27. Trousers, cotton, khaki (M) (Khaki Trousers)
28. Undershirt, winter, 50% cotton, 50% wool (M) (Wool Undershirt)

## Master List No. 5

## ITEMS FOR STRATUM C - EM

1. Cap, garrison, od (M) (Garrison Cap, od)
2. Necktie, cotton, mohair, OD-51 (M) (Necktie, OD-51)
3. Drawers, cotton, od (M) (Cotton Drawers)
4. Undershirt, cotton, quartersleeve, od (M) (Cotton Undershirt)
5. Jacket, herringbone twill, od-7 (M) (Fatigue Jacket)
6. Trousers, herringbone twill, od-7 (M) (Fatigue Trousers)
7. Jacket, field, M-1943 (M) (Field Jacket)
8. Raincoat, synthetic-rubber coated, dismounted (D) (Raincoat)
9. Glove-shells, leather, M-1949 (M) (Leather Gloves)
10. Boots, combat, service, russet (M) (Combat Boots)
11. Helmet, steel, M-1 (D) (Steel Helmet)
12. Liner, helmet, M-1 (D) (Helmet Liner)
13. Bag, duffel, with handle and carrying strap (M) (Duffel Bag)
14. Blanket, wool, od, M-1934 (D) (Blanket, od)
15. Glove-inserts, wool, M-1949 (M) (Wool Gloves)
16. Drawers, winter, 50% cotton, 50% wool (M) (Wool Drawers)
17. Overshoes, arctic (M) (Overshoes)
18. Belt, waist, web, od-3, w/clip, w/buckle (Waist Belt)
19. Overcoat, wool, od (M) (Overcoat)
20. Poncho, lightweight, od (M) (Poncho)
21. Bag, barrack, od (M) (Barrack Bag)
22. Tag, identification, M-1940 (M) (Dogtags)
23. Towel, turkish, od, large (M) (Bath Towel, od)
24. Tent, shelter half (D) (Shelter Half)
25. Canteen, M-1910 (D) (Canteen)
26. Suspenders, trousers (M) (Suspenders)
27. Trousers, field, cotton, od (M) (Cotton Trousers, Field)
28. Shirt, cotton, khaki, shade 1, stand-up collar, 8.2 oz. (M) (Khaki Shirt)

## Master List No. 6

## ITEMS FOR STRATUM D - EM

1. Cap, garrison, od (M) (Garrison Cap, od)
2. Necktie, cotton, mohair, OD-51 (M) (Necktie, OD-51)
3. Drawers, cotton, od (M) (Cotton Drawers)
4. Undershirt, cotton, quartersleeve, od (M) (Cotton Undershirt)
5. Jacket, herringbone twill, od-7 (M) (Fatigue Jacket)
6. Trousers, herringbone, twill, od-7 (M) (Fatigue Trousers)
7. Jacket, field, M-1943 (M) (Field Jacket)
8. Raincoat, synthetic-rubber coated, dismounted (D) (Raincoat)
9. Glove-shells, leather, M-1949 (M) (Leather Gloves)
10. Boots, combat, service, russet (M) (Combat Boots)
11. Helmet, steel, M-1 (D) (Steel Helmet)
12. Liner, helmet, M-1 (D) (Helmet Liner)
13. Bag, duffel, with handle and carrying strap (M) (Duffel Bag)
14. Blanket, wool, od, M-1934 (D) (Blanket, od)
15. Cap, field, cotton, od, w/visor (M) (Fatigue Cap)
16. Trousers, field, wool, od (M) (Wool Trousers, dress)
17. Jacket, field, wool, od (M) (Wool Jacket, Ike)
18. Trousers, wet weather (D) (Wet Weather Pants)
19. Overshoes, Arctic, M-1945 (D) (Overshoes)
20. Parka, wet weather (D) (Wet Weather Parka)
21. Can, meat (D) (Mess Kit)
22. Bag, clothing, waterproof (D) (Waterproof Bag)
23. Intrenching tool, combination (D) (Intrenching Tool)
24. Cover, canteen, dismounted (D) (Canteen Cover)
25. Spoon, M-1926 (D) (Mess Kit Spoon)
26. Shirt, cotton, khaki, shade 1, stand-up collar, 8.2 oz. (M) (Khaki Shirt)
27. Trousers, cotton, khaki (M) (Khaki Trousers)
28. Shoes, service, composition sole, russet (D) (Service Shoes)

## Master List No. 7

## ITEMS FOR STRATUM E - EM

1. Cap, garrison, od (M) (Garrison Cap, od)
2. Necktie, cotton, mohair, OD-51 (M) (Necktie, OD-51)
3. Drawers, cotton, od (M) (Cotton Drawers)
4. Undershirt, cotton, quartersleeve, od (M) (Cotton Undershirt)
5. Jacket, herringbone twill, od-7 (M) (Fatigue Jacket)
6. Trousers, herringbone twill, od-7 (M) (Fatigue Trousers)
7. Jacket, field, M-1943 (M) (Field Jacket)
8. Raincoat, synthetic-rubber coated, dismounted (D) (Raincoat)
9. Glove-shells, leather, M-1949 (M) (Leather Gloves)
10. Boots, combat, service, russet (M) (Combat Boots)
11. Helmet, steel, M-1 (D) (Steel Helmet)
12. Liner, helmet, M-1 (D) (Helmet Liner)
13. Bag, duffel, with handle and carrying strap (M) (Duffel Bag)
14. Blanket, wool, od, M-1934 (D) (Blanket, od)
15. Cap, field, cotton, od, w/visor (M) (Fatigue Cap)
16. Trousers, field, wool, od (M) (Wool Trousers, dress)
17. Jacket, field, wool, od (M) (Wool Jacket, Ike)
18. Trousers, wet weather (D) (Wet Weather Pants)
19. Overshoes, Arctic, M-1945 (D) (Overshoes)
20. Parka, wet weather (D) (Wet Weather Parka)
21. Can, meat (D) (Mess Kit)
22. Bag, clothing, waterproof (D) (Waterproof Bag)
23. Intrenching tool, combination (D) (Intrenching Tool)
24. Cover, canteen, dismounted (D) (Canteen Cover)
25. Spoon, M-1926 (D) (Mess Kit Spoon)
26. Shirt, cotton, khaki, shade 1, stand-up collar, 8.2 oz. (M) (Khaki Shirt)
27. Trousers, cotton, khaki (M) (Khaki Trousers)
28. Shoes, service, composition sole, russet (D) (Service Shoes)

## Master List No. 8

## ITEMS FOR STRATUM F - EM

1. Cap, garrison, od (M) (Garrison Cap, od)
2. Necktie, cotton, mohair, OD-51 (M) (Necktie, OD-51)
3. Drawers, cotton, od (M) (Cotton Drawers)
4. Undershirt, cotton, quartersleeve, od (M) (Cotton Undershirt)
5. Jacket, herringbone twill, od-7 (M) (Fatigue Jacket)
6. Trousers, herringbone twill, od-7 (M) (Fatigue Trousers)
7. Jacket, field, M-1943 (M) (Field Jacket)
8. Raincoat, synthetic-rubber coated, dismounted (D) (Raincoat)
9. Glove-shells, leather, M-1949 (M) (Leather Gloves)
10. Boots, combat, service, russet (M) (Combat Boots)
11. Helmet, steel, M-1 (D) (Steel Helmet)
12. Liner, helmet, M-1 (D) (Helmet Liner)
13. Bag, duffel, with handle and carrying strap (M) (Duffel Bag)
14. Blanket, wool, od, M-1934 (D) (Blanket, od)
15. Cap, field, pile, od MQ-1 (M) (Pile Cap)
16. Jacket, field, pile, od (M) (Pile Jacket)
17. Muffler, wool, od (M) (Wool Muffler)
18. Parka, field, overwhite (D) (Overwhite Parka)
19. Shoepacs, 12-inch, M-1944 (M) (Shoepacs)
20. Boots, arctic, felt (D) (Felt Boots)
21. Bag, sleeping, Arctic, M-1949 (D) (Sleeping Bag)
22. Mitten, arctic (D) (Mittens)
23. Creepers, ice (D) (Ice Creepers)
24. Packboard, aluminum (D) (Packboard)
25. Comforter, wool filled (D) (Comforter)
26. Trousers, overwhite (D) (Overwhite Trousers)
27. Boots, mukluk (D) (Mukluks)
28. Suspenders, trousers (M) (Suspenders)

## Master List No. 9

## CROSS REFERENCE LIST OF ITEMS ON MASTER LISTS

## Mandatory Allowances

## Clothing

1. Belt, waist, web, od-3, w/clip, w/buckle -- List 5
2. Boots, service, combat -- All Lists
- Cap:
  - Field:
    3. Cotton, od, w/visor -- Lists 4, 6, 7 (Also List 3)
    4. Fleece, od, MQ-1 -- List 8
  - Garrison:
    5. OD -- All Lists
- Drawers:
  6. Cotton, shorts, od -- All Lists
  7. Winter, 50% cotton, 50% wool, natural gray -- Lists 2, 4, 5
8. Glove-inserts, wool, M-1949 -- Lists 4, 5
9. Glove-shells, leather M-1949 -- All Lists (Also List 3)
10. Hood, jacket and overcoat, field -- Lists 2, 4
- Jacket:
  - Field:
    11. M-1943 -- All Lists
    12. Fleece, od -- List 8
    13. Herringbone twill, od-7 -- All Lists
    14. Wool, od -- Lists 2, 6, 7
    15. Muffler, wool, od -- List 8
    16. Necktie, cotton, mohair, OD-51 -- All Lists (Also List 3)
    17. Overcoat, wool, od -- Lists 2, 4, 5
    18. Poncho, lightweight, od -- List 5
- Shirt:
  19. Cotton, khaki, shade 1, stand-up collar, 8.2 oz. -- Lists 5, 6, 7
  20. Flannel, od, stand-up collar (shade 31) -- List 2
  21. Shoepacs, 12-inch, M-1944 -- List 8
  22. Socks, wool, cushion sole -- Lists 2, 4
  23. Suspenders, trousers -- List 8
  24. Sweater, high-neck -- Lists 2, 4
- Trousers:
  25. Cotton, Khaki -- Lists 2, 4, 6, 7
  - Field:
    26. Cotton, od -- List 5
    27. Wool, od -- Lists 2, 6, 7
    28. Herringbone twill, od-7 -- All Lists
- Undershirt:
  29. Cotton, quartersleeve, od -- All Lists
  30. Winter, 50% cotton, 50% wool, natural gray -- Lists 2, 4

Master List No. 9  
(continued)

## Equipment

## Bag:

- 31. Barrack, od -- Lists 2, 5 (Also List 3)
- 32. Duffel, with handle and carrying strap -- All Lists  
(Also List 3)
- 33. Necklace, identification tag, w/extension -- List 2  
(Also List 3)
- 34. Pouch, first aid, packet -- List 4
- 35. Tag, identification, M-1940 -- List 5
- 36. Towel, turkish, od, large -- Lists 2, 4, 5 (Also List 3)

## Discretionary Allowances

## Clothing

## Boots:

- 37. Arctic, felt -- List 8
- 38. Mukluk -- List 8
- 39. Mitten, Arctic -- List 8
- 40. Overshoes, Arctic, M-1945 -- Lists 5, 6, 7

## Parka:

- 41. Field, overwhite -- List 8
- 42. Wet Weather -- Lists 6, 7
- 43. Raincoat, synthetic-rubber coated, dismounted --  
All Lists
- 44. Shoes, service, composition sole, russet -- Lists 6, 7

## Trousers:

- 45. Field, overwhite -- List 8
- 46. Wet Weather -- Lists 6, 7

## Equipment

## Bag:

- 47. Clothing, waterproof -- Lists 6, 7
  - 48. Sleeping, Arctic, M-1949 -- List 8
  - 49. Blanket, wool, od, M-1934 -- All Lists (Also List 3)
  - 50. Can, meat -- Lists 6, 7
  - 51. Canteen, M-1910 -- Lists 2, 4, 5 (Also List 3)
  - 52. Comforter, wool filled -- List 8
  - 53. Cover, canteen, dismounted, M-1910 -- Lists 6, 7
  - 54. Creepers, ice -- List 8
  - 55. Cup, canteen -- List 2 (Also List 3)
- Helmet, consisting of:
- 56. Helmet, steel, M-1 -- All Lists (Also List 3)
  - 57. Liner, helmet, M-1 -- All Lists (Also List 3)



Master List No. 9  
(continued)

- 58. Intrenching tool, combination -- Lists 6, 7
- 59. Packboard, aluminum -- List 8
- 60. Spoon, M-1926 -- Lists 6, 7
- 61. Tent, shelter half -- Lists 4, 5

## INDEX OF ITEM LISTS

Item List No. 1 - Stratum A - EM -- Order 1  
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Item List No. 5 - Stratum B - EM -- Order 1  
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## Item List No. 1

## Item List No. 2

## STRATUM A - EM

## Order 1

1. Garrison Cap, od
2. Cotton Drawers
3. Fatigue Jacket
4. Combat Boots
5. Raincoat
6. Duffel Bag
7. Blanket, od
8. Steel Helmet
9. Helmet Liner
10. Cotton Undershirt
11. Field Jacket
12. Leather Gloves
13. Fatigue Trousers
14. Necktie, OD-51
15. Jacket Hood
16. Bath Towel, od
17. Barrack Bag
18. Wool Jacket (Ike)
19. Canteen
20. Wool Drawers
21. Wool Trousers (Dress)
22. Wool Shirt (Dress)
23. Canteen Cup
24. Necklace (Dogtag)
25. Wool Undershirt
26. Wool Socks
27. Sweater (high-neck)
28. Overcoat

## Order 2

1. Canteen
2. Wool Socks
3. Wool Trousers (Dress)
4. Canteen Cup
5. Bath Towel, od
6. Sweater (high-neck)
7. Wool Drawers
8. Wool Undershirt
9. Overcoat
10. Barrack Bag
11. Jacket Hood
12. Wool Shirt (Dress)
13. Necklace (Dogtag)
14. Wool Jacket (Ike)
15. Helmet Liner
16. Cotton Undershirt
17. Combat Boots
18. Steel Helmet
19. Field Jacket
20. Garrison Cap, od
21. Cotton Drawers
22. Fatigue Jacket
23. Leather Gloves
24. Blanket, od
25. Necktie, OD-51
26. Fatigue Trousers
27. Raincoat
28. Duffel Bag

## Item List No. 3

## Item List No. 4

## STRATUM A - EW

## Order 1

1. Duffel Bag
2. Helmet Liner
3. Necktie, OD-51
4. Leather Gloves
5. Fatigue Cap
6. Utility Bag
7. Cotton Waist
8. Raincoat
9. Bath Towel, od
10. Overcoat
11. Garrison Cap, od
12. Wool Coat (Dress)
13. Steel Helmet
14. Canteen
15. Canteen Cup
16. Slip
17. Sweater
18. Field Shoes
19. Scarf (Dress)
20. Barrack Bag
21. Wool Slacks
22. Summer Panties
23. Wool Anklets
24. Dress Shoes
25. Necklace (Dogtag)
26. Nylons
27. Blanket, od
28. Wool Skirt

## Order 2

1. Canteen
2. Cotton Waist
3. Duffel Bag
4. Bath Towel, od
5. Sweater
6. Scarf (Dress)
7. Steel Helmet
8. Field Shoes
9. Fatigue Cap
10. Leather Gloves
11. Raincoat
12. Dress Shoes
13. Slip
14. Helmet Liner
15. Utility Bag
16. Necklace (Dogtag)
17. Overcoat
18. Canteen Cup
19. Blanket, od
20. Wool Skirt
21. Wool Coat (Dress)
22. Summer Panties
23. Nylons
24. Necktie, OD-51
25. Garrison Cap, od
26. Wool Slacks
27. Wool Anklets
28. Barrack Bag

## Item List No. 5

## Item List No. 6

## STRATUM B - EM

## Order 1

1. Garrison Cap, od
2. Cotton Drawers
3. Fatigue Jacket
4. Combat Boots
5. Raincoat
6. Duffel Bag
7. Blanket, od
8. Steel Helmet
9. Helmet Liner
10. Cotton Undershirt
11. Field Jacket
12. Leather Gloves
13. Fatigue Trousers
14. Necktie, OD-51
15. Bath Towel, od
16. Khaki Trousers
17. Wool Socks
18. Shelter Half
19. Sweater (High-neck)
20. Wool Undershirt
21. Canteen
22. Dogtags
23. First Aid Pouch
24. Jacket Hood
25. Fatigue Cap
26. Overcoat
27. Wool Drawers
28. Wool Gloves

## Order 2

1. Dogtags
2. Khaki Trousers
3. Bath Towel, od
4. Jacket Hood
5. Canteen
6. Shelter Half
7. First Aid Pouch
8. Wool Socks
9. Sweater (High-neck)
10. Wool Drawers
11. Fatigue Cap
12. Wool Undershirt
13. Overcoat
14. Wool Gloves
15. Helmet Liner
16. Cotton Undershirt
17. Combat Boots
18. Steel Helmet
19. Field Jacket
20. Garrison Cap, od
21. Cotton Drawers
22. Fatigue Jacket
23. Leather Gloves
24. Blanket, od
25. Necktie, OD-51
26. Fatigue Trousers
27. Raincoat
28. Duffel Bag

## Item List No. 7

## Item List No. 8

## STRATUM C - EM

## Order 1

1. Garrison Cap, od
2. Cotton Drawers
3. Fatigue Jacket
4. Combat Boots
5. Raincoat
6. Duffel Bag
7. Blanket, od
8. Steel Helmet
9. Helmet Liner
10. Cotton Undershirt
11. Field Jacket
12. Leather Gloves
13. Fatigue Trousers
14. Necktie, OD-51
15. Cotton Trousers (Field)
16. Suspenders
17. Waist Belt
18. Dogtags
19. Poncho
20. Wool Gloves
21. Khaki Shirt
22. Shelter Half
23. Overshoes
24. Bath Towel, od
25. Canteen
26. Wool Drawers
27. Barrack Bag
28. Overcoat

## Order 2

1. Shelter Half
2. Cotton Trousers (Field)
3. Overshoes
4. Bath Towel, od
5. Suspenders
6. Overcoat
7. Dogtags
8. Canteen
9. Wool Gloves
10. Poncho
11. Wool Drawers
12. Barrack Bag
13. Waist Belt
14. Khaki Shirt
15. Helmet Liner
16. Cotton Undershirt
17. Combat Boots
18. Steel Helmet
19. Field Jacket
20. Garrison Cap, od
21. Cotton Drawers
22. Fatigue Jacket
23. Leather Gloves
24. Blanket, od
25. Necktie, OD-51
26. Fatigue Trousers
27. Raincoat
28. Duffel Bag

## Item List No. 9

## Item List No. 10

## STRATUM D - EM

## Order 1

1. Garrison Cap, od
2. Cotton Drawers
3. Fatigue Jacket
4. Combat Boots
5. Raincoat
6. Duffel Bag
7. Blanket, od
8. Steel Helmet
9. Helmet Liner
10. Cotton Undershirt
11. Field Jacket
12. Leather Gloves
13. Fatigue Trousers
14. Necktie, OD-51
15. Wool Jacket (Ike)
16. Mess Kit Spoon
17. Fatigue Cap
18. Khaki Shirt
19. Canteen Cover
20. Waterproof Bag
21. Service Shoes
22. Overshoes
23. Intrenching Tool
24. Wet Weather Pants
25. Mess Kit
26. Wet Weather Parka
27. Wool Trousers (Dress)
28. Khaki Trousers

## Order 2

1. Khaki Trousers
2. Fatigue Cap
3. Khaki Shirt
4. Intrenching Tool
5. Overshoes
6. Wet Weather Pants
7. Mess Kit Spoon
8. Wool Trousers (Dress)
9. Wet Weather Parka
10. Service Shoes
11. Waterproof Bag
12. Canteen Cover
13. Mess Kit
14. Wool Jacket (Ike)
15. Helmet Liner
16. Cotton Undershirt
17. Combat Boots
18. Steel Helmet
19. Field Jacket
20. Garrison Cap, od
21. Cotton Drawers
22. Fatigue Jacket
23. Leather Gloves
24. Blanket, od
25. Necktie, OD-51
26. Fatigue Trousers
27. Raincoat
28. Duffel Bag

## Item List No. 13

## Item List No. 14

## STRATUM F - EM

## Order 1

1. Garrison Cap, od
2. Cotton Drawers
3. Fatigue Jacket
4. Combat Boots
5. Raincoat
6. Duffel Bag
7. Blanket, od
8. Steel Helmet
9. Helmet Liner
10. Cotton Undershirt
11. Field Jacket
12. Leather Gloves
13. Fatigue Trousers
14. Necktie, OD-51
15. Pile Cap
16. Overwhite Trousers
17. Ice Creepers
18. Shoepacs
19. Overwhite Parka
20. Mukluks
21. Comforter
22. Pile Jacket
23. Felt Boots
24. Suspenders
25. Mittens
26. Packboard
27. Sleeping Bag
28. Wool Muffler

## Order 2

1. Comforter
2. Ice Creepers
3. Packboard
4. Shoepacs
5. Wool Muffler
6. Felt Boots
7. Suspenders
8. Mittens
9. Pile Jacket
10. Overwhite Parka
11. Overwhite Trousers
12. Sleeping Bag
13. Pile Cap
14. Mukluks
15. Helmet Liner
16. Cotton Undershirt
17. Combat Boots
18. Steel Helmet
19. Field Jacket
20. Garrison Cap, od
21. Cotton Drawers
22. Fatigue Jacket
23. Leather Gloves
24. Blanket, od
25. Necktie, OD-51
26. Fatigue Trousers
27. Raincoat
28. Duffel Bag



## CODE

A-EM Z-35 ML-2 IL-1 --Basic Training Troops  
 A-EM Z-35 ML-2 IL-2 --Basic Training Troops  
 A-EW Z-35 ML-3 IL-3 --Enlisted Women  
 A-EW Z-35 ML-3 IL-4 --Enlisted Women  
 B-EM Z-35 ML-4 IL-5 --Troops in Dress Uniform  
 B-EM Z-35 ML-4 IL-6 --Troops in Dress Uniform  
 C-EM Z-35 ML-5 IL-7 --Troops in Fatigue Uniform  
 C-EM Z-35 ML-5 IL-8 --Troops in Fatigue Uniform  
 D-EM Z-35 ML-6 IL-9 --Combat Veterans  
 D-EM Z-35 ML-6 IL-10 --Combat Veterans  
 F-EM Z-7 ML-8 IL-13 --Fort Churchill Troops  
 F-EM Z-7 ML-8 IL-14 --Fort Churchill Troops

A - Stratum A, B, C, D, F  
 EM - Enlisted Men  
 EW - Enlisted Women  
 Z - Clothing Allowance Zones, T/A 21 (Mbl)  
 35 - Zones 3 and 5  
 7 - Zone 7  
 ML - Master List of Items  
 IL - Item Lists

Item lists 1, 5, 7, 9 and 13 have the common items at the beginning of the list. These items are arranged in a random order.

Item lists 2, 6, 8, 10 and 14 have the common items at the end of the list. These items are arranged in a random order that is different from the random order used when the common items appear at the beginning of the list.

The items specific to a particular list come at the end of the list on Item Lists 1, 5, 7, 9 and 13 and are arranged in a random order. On Item Lists 2, 6, 8, 10 and 14 the specific items come at the beginning of the list and are arranged in a different random order than when they appear at the end of the lists.

## **APPENDIX II**

### **Task Booklet Presented to Subjects**

## INTRODUCTION

There are three things we would like for you to do. First, tell us whether you think certain items of Army equipment are good items or bad items. Second, tell us why you think they are good or bad. And finally, rate the items you choose.

Please read the directions carefully before you start each step. When you finish a step wait for further instructions before you go on to the next one. Do not sign your name to any of the papers.

DO NOT TURN THIS PAGE UNTIL INSTRUCTED TO DO SO

S T E P   4

DIRECTIONS: Turn back to the list of items on Page 3 again. This time rate the items you marked in the "Bad" column. Choose the one you think is the worst of these items and mark it with a one (1) in the same box where you put your check-mark for that item. Choose the one you think is second worst and mark it with a two (2). Mark the third worst one with a three (3) and so on until you have rated every item you marked in the "Bad" column.

BE SURE YOU RATE EVERY ITEM YOU MARKED IN THE "BAD" COLUMN

S T O P

REMAIN QUIET UNTIL YOU ARE DISMISSED

**APPENDIX III**  
**Administrator's Manual**

**ADMINISTRATOR'S MANUAL****QMBT 5221****The Dimensionality of Soldier Acceptance**

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## Introduction

This study is an attempt to isolate and measure some basic dimensions of soldier acceptance. Because of the complexity of the task facing the subjects, it is necessary to supplement the written instructions. The procedures in this manual must be followed by all administrators so data from different groups will be comparable. Administrators must become thoroughly familiar with these procedures before administering the task.

## Instructions

1. Study this manual thoroughly so you can present the material clearly and smoothly. Passages you are to read to subjects are double spaced and enclosed in boxes. Passages quoted directly from written instructions on the questionnaire are enclosed in quotation marks.

2. The task should be administered in rooms where there are armchairs or tables upon which the subjects can write. There should also be a blackboard in the room. If the room does not contain a blackboard, it will be necessary to provide a portable one.

3. Before the subjects enter the room, put the example, as shown below, on the blackboard.

Good	Indif	Bad	Items	Reasons
			Carbine	
			Gas Mask	
			Pistol Belt	
			Collar Insignia	
			Coverall Fatigues	
			Field Pack	

4. After all subjects have been seated, check to see that each one has writing space.

5. Before distributing the materials, tell the subjects:

---

'        You will be given a questionnaire. When you    '  
 '        get it leave it face up on your desk. You may    '  
 '        read the front page but do not turn the page until    '  
 '        told to do so.    '

---

6. Distribute the materials to the subjects. If proctors are not available, have some of the subjects help you.

7. After subjects have received a pencil and one copy of the questionnaire, get their attention and present the following:

---

'        We are conducting a study to find out what        '  
 '        troops think about certain items of Army equip-        '  
 '        ment. We will appreciate it if you will give us        '  
 '        your opinions about these items. There are three        '  
 '        things we will ask you to do. First, tell us        '  
 '        whether you think these items are good items or        '  
 '        bad items. Second, tell us why you think they        '  
 '        are good or bad. And finally, rate the items you        '  
 '        choose.    '

---

'        This is not a test. There are no right or        '  
 '        wrong answers. The important thing is that you        '  
 '        tell us which items you think are good or bad and        '  
 '        why you think so. Don't try to give answers you        '  
 '        think we want because what we really want are your        '  
 '        honest and sincere opinions.                                '

---



' We have the job broken down into four steps. '

' We will go through it step by step; completing '

' each step before going on to the next one. Each '

' step has written directions which we will read '

' together. I will present examples to help ex- '

' plain the directions. When you finish a step do '

' not go ahead. Stop and wait for further instruc- '

' tions. Do not sign your name to any of the '

' papers. '

' Turn now to Page 1 (Pause). Answer the '

' questions on this page by checking or filling in '

' the blanks. Answer all questions. When you '

' finish stop and wait for further instructions. '

' Go ahead now with Step 1. '

---

8. After approximately four minutes, or after nearly all subjects have finished, say to them:

---

' Has everyone finished Step 1? (Pause). '

' Finish up in the next couple of minutes. Check '

' to see that you have answered all questions. '

---

NOTE: If there are a very few extremely slow subjects, it may not be advisable to wait until they have completely finished a step before starting the next one. This is not a "speed test" so the time per step is flexible. Gauge the time according to how fast your subjects can work. If you feel that the group will get too restless waiting for the extremely slow ones, go ahead with the task. If you go ahead before everyone has finished, tell them they will be given time at the end to go back and finish.

9. When everyone has finished checking, present the following:

Turn to Page 5. Here are the directions for

Step 2 which we will read together:

"Look at the list of items on the next page.

If you think an item is a good item, put a small

check-mark in the "Good" column opposite that

item. Tell why you think it is a good item in

the "Reasons" column opposite that item. If you

think an item is a bad item, put your check-mark

in the "Bad" column. Tell why you think it is a

bad item in the "Reasons" column. If you cannot

decide whether an item is good or bad, put your

check-mark in the "Indifferent" column. You need

not give reasons for items you mark in this

column."

Look at the example on the blackboard. I

think the Carbine is a good item so I would put

my check-mark in the "Good" column. (Put a small

check-mark in the column). I would tell why I

think it is a good item over in the "Reasons"

column. (Make a series of dashes in the "Reasons"

column). I don't think the Gas Mask is a good

item so I would check it in the "Bad" column.

(Put a check in the column). I would tell why

I think it is a bad item in the "Reasons" column.

(Put dashes in the "Reasons" column). I think

the Pistol Belt is a good item so I would mark it

in the "Good" column. (Put a check in the column).

Why I think it is a good item would go in the "Reasons" column. (Put dashes in the "Reasons" column). I cannot decide whether the Collar Insignia is good or bad so I would mark it in the "Indifferent" column. (Put a check in the column). I do not need to give reasons for this item. I think the Fatigues are good so I would mark them in the "Good" column. (Put a check in the column). I would put my reasons in the "Reasons" column. (Put dashes in the "Reasons" column). I think the Field Pack is a bad item so I would mark it in the "Bad" column. (Put a check in the column). I would tell why I think it is a bad item in the "Reasons" column. (Put dashes in the "Reasons" column). Are there any questions? (Pause for questions).

NOTE: If someone should ask what you mean by a good item or a bad item, tell them the following:

What is meant by a good item or a bad item is exactly what we are trying to find out from you. We are trying to find out what you mean when you say "this is a good item, I like it", or "this is a bad item, I don't like it".

10. After all questions have been answered, continue with the following:

---

' "Work through the list item by item. Make '

' your decision on each item and put down your '

' reasons before you go on to the next one. If you '

' come to an item that has been issued in more than '

' one style, use the style that you now have. If '

' you need extra space for your reasons, use Page 4."

' Go ahead now with Step 2. When you finish '

' stop and wait for further instructions. '

---

11. After approximately 20 minutes, when nearly every-one will have finished, say to them:

---

' Has everyone finished Step 2? (Pause) '

' Finish up in the next minute or two. Check your '

' list to see that you have a check-mark for every '

' item. Also, be sure you have given reasons for '

' every item you marked in the "Good" column and for '

' every item you marked in the "Bad" column. '

---

12. When everyone has finished checking, present the following:

---

' Turn to Page 5. Here are the directions for '

' Step 3 which we will read together. '

' "Turn back to the list of items on Page 3. '

' Look at the items you marked in the "Good" column. '

' Choose the one you think is the best of these '

' items and mark it with a one (1) in the same box '

' where you put your check-mark for that item. '

' Choose the one you think is second best and mark '

---

' it with a two (2). Mark the third best one with  
'  
' a three (3), the fourth best one with a four (4),  
'  
' and so on until you have rated every item you  
'  
' marked in the "Good" column."  
'

' Look at the example on the blackboard again.  
'  
' Of the items I marked in the "Good" column, I  
'  
' think the Fatigues are the best so I would mark  
'  
' them with a one. (Put a figure one (1) in the box  
'  
' for that item). I think the Carbine is second  
'  
' best so I would mark it with a two. (Put a  
'  
' figure two (2) in the box). I think the Pistol  
'  
' Belt is third best so I would mark it with a  
'  
' three. (Put a figure three (3) in the box). Are  
'  
' there any questions? (Pause for questions).  
'

' Go ahead now with Step 3. Rate every item  
'  
' you marked in the "Good" column. When you finish  
'  
' stop and wait for further instructions.  
'

---

13. After three or four minutes, when most subjects will have finished, say to them:

---

' Has everyone finished Step 3? Finish up in  
'  
' the next few seconds. Check the "Good" column to  
'  
' be sure you rated every item marked there.  
'

---

14. When everyone has finished checking, present the following:

---

' Turn to Page 6. Here are the directions for  
'  
' Step 4 which we will read together.  
'

"Turn back to the list of items on Page 3 again. This time rate the items you marked in the "Bad" column. Choose the one you think is the worst of these items and mark it with a one (1) in the same box where you put your check-mark for that item. Choose the one you think is second worst and mark it with a two (2). Mark the third worst one with a three (3) and so on until you have rated every item you marked in the "Bad" column."

Look at the example again. Of the items I marked in the "Bad" column, I think the Gas Mask is the worst one so I would mark it with a one. (Put a figure one (1) in the box for that item). I think the Field Pack is second worst so I would mark it with a two. (Put a figure two (2) in the box). You need not rate the items you marked in the "Indifferent" column.

Go ahead now with Step 4. Rate every item you marked in the "Bad" column. When you finish stop and wait for further instructions.

---

15. After three or four minutes, when most subjects will have finished, say to them:

---

Has everyone finished Step 4? Finish up in the next few seconds. Check the "Bad" column to be sure you rated every item you marked there. If you did not get to finish any of the earlier steps, go back now and finish them.

---

16. Allow a few minutes for those who did not finish previous steps to go back and finish but do not wait so long that the rest of the subjects become restless and noisy.

17. Collect the completed questionnaires and the pencils by the easiest and quickest method. After all materials have been collected, present the following:

---

'        Since we will use other troops here at Ft.        '  
'  
' Lee in this study, we must ask you not to talk        '  
'  
' about the study to anyone who has not taken part        '  
'  
' in it. You can talk among yourselves but do not        '  
'  
' talk about it to members of other units or to any-        '  
'  
' one who has not been through it. Thank you very        '  
'  
' much for your cooperation.        '  
'

---

18. Return the troops to their leader or dismiss them.

## APPENDIX IV

### Raw Data

Responses to Common Items

Responses to All Items

Number of Reasons per Item per Dimension

Items Appearing in Miscellaneous Category



# RESPONSES TO COMMON ITEMS

G-Good, I-Indifferent, B-Bad

*Item No.	Stratum A			Stratum B			Stratum C			Stratum D			Stratum F			Total		
	G	I	B	G	I	B	G	I	B	G	I	B	G	I	B	G	I	B
1	33	44	26	30	55	58	28	62	36	11	24	14	22	29	26	124	214	160
2	59	30	14	64	40	39	54	61	11	18	26	5	33	20	24	228	177	93
3	76	18	9	61	48	34	52	46	28	28	16	5	40	20	17	257	148	93
4	75	14	14	81	27	35	53	27	46	24	14	11	50	12	15	226	108	164
5	71	16	16	24	41	78	43	40	43	10	18	21	24	21	32	222	169	107
6	55	26	22	59	72	12	57	54	15	25	20	4	49	15	13	258	168	72
7	76	22	5	73	51	19	65	53	8	24	22	3	48	24	5	251	169	78
8	69	24	10	42	59	42	52	37	37	20	11	18	32	23	22	202	193	103
9	61	33	9	36	79	28	48	64	14	13	30	6	33	36	8	238	201	59
10	64	31	8	75	45	23	44	63	19	21	23	5	39	25	13	268	159	71
11	77	16	10	93	27	23	78	33	15	28	13	8	60	12	5	279	150	69
12	72	23	8	48	68	27	50	54	22	16	21	12	43	17	17	246	161	91
13	72	17	14	60	44	39	60	40	26	21	23	5	42	23	12	228	175	95
14	45	44	14	39	67	37	43	64	19	15	28	6	25	38	14	167	241	90
Sum	905	358	179	785	723	494	727	698	339	274	289	123	540	315	223	3194	2433	1345

## \*Item Names

1	Garrison Cap, od	8	Steel Helmet
2	Cotton Drawers	9	Helmet Liner
3	Fatigue Jacket	10	Cotton Undershirt
4	Combat Boots	11	Field Jacket
5	Raincoat	12	Leather Gloves
6	Duffel Bag	13	Fatigue Trousers
7	Blanket, od	14	Necktie, OD-51

# STRATUM A-EW BASIC TRAINEES

<u>No.</u>	<u>Items</u>	<u>Responses</u>								
		<u>Order 1</u>			<u>Order 2</u>			<u>Total</u>		
		<u>Good</u>	<u>Indif</u>	<u>Bad</u>	<u>Good</u>	<u>Indif</u>	<u>Bad</u>	<u>Good</u>	<u>Indif</u>	<u>Bad</u>
1	Duffel Bag	54	4	8	41	23	9	95	27	17
2	Helmet Liner	33	32	1	21	46	6	54	78	7
3	Necktie, OD-51	14	42	10	2	56	15	16	98	25
4	Leather Gloves	55	6	5	52	13	8	107	19	13
5	Fatigue Cap	8	57	1	8	63	2	16	120	3
6	Utility Bag	38	19	9	33	31	9	71	50	18
7	Cotton Waist	51	7	8	56	10	7	107	17	15
8	Raincoat	47	0	19	48	3	22	95	3	41
9	Bath Towel, od	47	12	7	40	18	15	87	30	22
10	Overcoat	57	7	2	59	7	7	116	14	9
11	Garrison Cap, od	14	51	1	12	60	1	26	111	2
12	Wool Coat (Dress)	26	33	7	39	30	4	65	63	11
13	Steel Helmet	29	29	8	39	28	6	68	57	14
14	Canteen	48	16	2	48	20	5	96	36	7
15	Canteen Cup	22	34	10	20	45	8	42	79	18
16	Slip	27	38	1	32	36	5	59	74	6
17	Sweater	45	11	10	40	19	14	85	30	24
18	Field Shoes	62	2	2	69	2	2	131	4	4
19	Scarf (Dress)	25	34	7	38	25	10	63	59	17
20	Barrack Bag	33	29	4	36	32	5	69	61	9
21	Wool Slacks	47	7	12	52	11	10	99	18	22
22	Summer Panties	23	42	1	18	51	4	41	93	5
23	Wool Anklets	51	10	5	61	6	6	112	16	11
24	Dress Shoes	39	11	16	50	11	12	89	22	28
25	Necklace (Dogtag)	23	40	3	38	34	1	61	74	4
26	Nylons	41	7	18	36	10	27	77	17	45
27	Blanket, od	52	13	1	56	12	5	108	25	6
28	Wool Skirt	44	15	7	51	17	5	95	32	12
Total		1055	608	185	1095	719	230	2150	1327	415

STRATUM A-EM BASIC TRAINEES

<u>No.</u>	<u>Items</u>	<u>Order 1</u>			<u>Responses</u> <u>Order 2</u>			<u>Total</u>		
		<u>Good</u>	<u>Indif</u>	<u>Bad</u>	<u>Good</u>	<u>Indif</u>	<u>Bad</u>	<u>Good</u>	<u>Indif</u>	<u>Bad</u>
1	Garrison Cap, od	20	16	11	13	28	15	33	44	26
2	Cotton Drawers	31	9	7	28	21	7	59	30	14
3	Fatigue Jacket	38	5	4	38	13	5	76	18	9
4	Combat Boots	34	5	8	41	9	6	75	14	14
5	Raincoat	36	4	7	35	12	9	71	16	16
6	Duffel Bag	27	10	10	28	16	12	55	26	22
7	Blanket, od	36	9	2	40	13	3	76	22	5
8	Steel Helmet	34	9	4	35	15	6	69	24	10
9	Helmet Liner	31	14	2	30	19	7	61	33	9
10	Cotton Undershirt	38	8	1	26	23	7	64	31	8
11	Field Jacket	37	7	3	40	9	7	77	16	10
12	Leather Gloves	32	10	5	40	13	3	72	23	8
13	Fatigue Trousers	38	6	3	34	11	11	72	17	14
14	Necktie, OD-51	26	15	6	19	29	8	45	44	14
15	Jacket Hood	11	35	1	15	40	1	26	75	2
16	Bath Towel, od	28	14	5	31	13	12	59	27	17
17	Barrack Bag	20	23	4	26	25	5	46	48	9
18	Wool Jacket (Ike)	37	6	4	39	13	4	76	19	8
19	Canteen	31	10	6	41	5	10	72	15	16
20	Wool Drawers	22	12	13	28	22	6	50	34	19
21	Wool Trousers (Dress)	36	7	4	39	12	5	75	19	9
22	Wool Shirt (Dress)	29	12	6	32	15	9	61	27	15
23	Canteen Cup	19	24	4	30	15	11	49	39	15
24	Necklace (Dogtag)	26	14	7	32	14	10	58	28	17
25	Wool Undershirt	21	19	7	29	17	10	50	36	17
26	Wool Socks	37	6	4	48	4	4	85	10	8
27	Sweater (High-neck)	12	33	2	23	31	2	35	64	4
28	Overcoat	37	9	1	44	9	3	81	18	4
Total - Items 1-14		458	127	73	447	231	106	905	358	179
Total		824	351	141	904	466	198	1728	817	339

# STRATUM B DRESS UNIFORM

<u>No.</u>	<u>Items</u>	<u>Responses</u>								
		<u>Order 1</u>			<u>Order 2</u>			<u>Total</u>		
		<u>Good</u>	<u>Indif</u>	<u>Bad</u>	<u>Good</u>	<u>Indif</u>	<u>Bad</u>	<u>Good</u>	<u>Indif</u>	<u>Bad</u>
1	Garrison Cap, od	22	21	27	8	34	31	30	55	58
2	Cotton Drawers	36	15	19	28	25	20	64	40	39
3	Fatigue Jacket	35	21	14	26	27	20	61	48	34
4	Combat Boots	42	13	15	39	14	20	81	27	35
5	Raincoat	11	20	39	13	21	39	24	41	78
6	Duffel Bag	33	31	6	26	41	6	59	72	12
7	Blanket, od	36	25	9	37	26	10	73	51	19
8	Steel Helmet	23	33	14	19	26	28	42	59	42
9	Helmet Liner	19	40	11	17	39	17	36	79	28
10	Cotton Undershirt	35	22	13	40	23	10	75	45	23
11	Field Jacket	44	15	11	49	12	12	93	27	23
12	Leather Gloves	25	28	17	23	40	10	48	68	27
13	Fatigue Trousers	29	20	21	31	24	18	60	44	39
14	Necktie, OD-51	20	34	16	19	33	21	39	67	37
15	Bath Towel, od	22	36	12	37	22	14	59	58	26
16	Khaki Trousers	22	25	23	34	19	20	56	44	43
17	Wool Socks	40	21	9	56	10	7	96	31	16
18	Shelter Half	11	44	15	19	33	21	30	77	36
19	Sweater (High-neck)	26	38	6	26	32	15	52	70	21
20	Wool Undershirt	27	33	10	28	24	21	55	57	31
21	Canteen	22	30	18	32	30	11	54	60	29
22	Dogtags	22	39	9	46	15	12	68	54	21
23	First Aid Pouch	29	38	3	38	24	11	67	62	14
24	Jacket Hood	31	32	7	31	32	10	62	64	17
25	Fatigue Cap	17	36	17	21	35	17	38	71	34
26	Overcoat	43	14	13	57	6	10	100	20	23
27	Wool Drawers	15	36	19	26	20	27	41	56	46
28	Wool Gloves	28	34	8	29	34	10	57	68	18
Total - Items 1-14		410	338	232	375	385	262	785	723	494
Total		765	794	401	855	721	468	1620	1515	869

# STRATUM C FATIGUE UNIFORM

<u>No.</u>	<u>Items</u>	<u>Responses</u>								
		<u>Order 1</u>			<u>Order 2</u>			<u>Total</u>		
		<u>Good</u>	<u>Indif</u>	<u>Bad</u>	<u>Good</u>	<u>Indif</u>	<u>Bad</u>	<u>Good</u>	<u>Indif</u>	<u>Bad</u>
1	Garrison Cap, od	14	20	22	14	42	14	28	62	36
2	Cotton Drawers	21	30	5	33	31	6	54	61	11
3	Fatigue Jacket	25	19	12	27	27	16	52	46	28
4	Combat Boots	20	14	22	33	13	24	53	27	46
5	Raincoat	17	20	19	26	20	24	43	40	43
6	Duffel Bag	27	23	6	30	31	9	57	54	15
7	Blanket, od	28	23	5	37	30	3	65	53	8
8	Steel Helmet	21	16	19	31	21	18	52	37	37
9	Helmet Liner	20	30	6	28	34	8	48	64	14
10	Cotton Undershirt	18	29	9	26	34	10	44	63	19
11	Field Jacket	36	16	4	42	17	11	78	33	15
12	Leather Gloves	23	23	10	27	31	12	50	54	22
13	Fatigue Trousers	29	17	10	31	23	16	60	40	26
14	Necktie, OD-51	12	30	14	31	34	5	43	64	19
15	Cotton Trousers (Fld)	18	31	7	41	17	12	59	48	19
16	Suspenders	4	35	17	5	45	20	9	80	37
17	Waist Belt	26	26	4	33	30	7	59	56	11
18	Dogtags	29	20	7	38	20	12	67	40	19
19	Poncho	10	21	25	21	18	31	31	39	56
20	Wool Gloves	21	23	12	38	16	16	59	39	28
21	Khaki Shirt	26	21	9	39	21	10	65	42	19
22	Shelter Half	14	33	9	35	25	10	49	58	19
23	Overshoes	14	33	9	24	31	15	38	64	24
24	Bath Towel, od	20	30	6	36	28	6	56	58	12
25	Canteen	23	25	8	43	20	7	66	45	15
26	Wool Trousers	10	27	19	17	36	17	27	63	36
27	Barrack Bag	18	36	2	36	28	6	54	64	8
28	Overcoat	30	13	13	45	6	19	75	19	32
Total - Items 1-14		311	310	163	416	388	176	727	698	339
Total		574	684	310	867	729	364	1441	1413	674

# STRATUM D COMBAT VETERANS

<u>No.</u>	<u>Items</u>	<u>Responses</u>								
		<u>Order 1</u>			<u>Order 2</u>			<u>Total</u>		
		<u>Good</u>	<u>Indif</u>	<u>Bad</u>	<u>Good</u>	<u>Indif</u>	<u>Bad</u>	<u>Good</u>	<u>Indif</u>	<u>Bad</u>
1	Garrison Cap, od	8	9	7	3	15	7	11	24	14
2	Cotton Drawers	12	11	1	6	15	4	18	26	5
3	Fatigue Jacket	16	4	4	12	12	1	28	16	5
4	Combat Boots	10	4	10	14	10	1	24	14	11
5	Raincoat	6	9	9	4	9	12	10	18	21
6	Duffel Bag	14	8	2	11	12	2	25	20	4
7	Blanket, od	14	9	1	10	13	2	24	22	3
8	Steel Helmet	11	4	9	9	7	9	20	11	18
9	Helmet Liner	9	13	2	4	17	4	13	30	6
10	Cotton Undershirt	11	11	2	10	12	3	21	23	5
11	Field Jacket	14	5	5	14	8	3	28	13	8
12	Leather Gloves	8	11	5	8	10	7	16	21	12
13	Fatigue Trousers	12	10	2	9	13	3	21	23	5
14	Necktie, OD-51	8	14	2	7	14	4	15	28	6
15	Wool Jacket (Ike)	6	9	9	10	6	9	16	15	18
16	Mess Kit Spoon	4	17	3	10	14	1	14	31	4
17	Fatigue Cap	11	10	3	10	13	2	21	23	5
18	Khaki Shirt	11	6	7	12	9	4	23	15	11
19	Canteen Cover	7	16	1	11	13	1	18	29	2
20	Waterproof Bag	9	12	3	10	15	0	19	27	3
21	Service Shoes	11	9	4	9	12	4	20	21	8
22	Overshoes	11	10	3	6	13	6	17	23	9
23	Intrenching Tool	11	11	2	11	12	2	22	23	4
24	Wet Weather Trousers	7	14	3	5	14	6	12	28	9
25	Mess Kit	8	11	5	10	13	2	18	24	7
26	Wet Weather Parka	8	16	0	7	15	3	15	31	3
27	Wool Trousers (Dress)	9	7	8	11	7	7	20	14	15
28	Khaki Trousers	5	9	10	13	8	4	18	17	14
	Total - Items 1-14	153	122	61	121	167	62	274	289	123
	Total	271	279	122	256	331	113	527	610	235

## STRATUM F ARCTIC

<u>No.</u>	<u>Items</u>	<u>Responses</u>								
		<u>Order 1</u>			<u>Order 2</u>			<u>Total</u>		
		<u>Good</u>	<u>Indif</u>	<u>Bad</u>	<u>Good</u>	<u>Indif</u>	<u>Bad</u>	<u>Good</u>	<u>Indif</u>	<u>Bad</u>
1	Garrison Cap, od	14	10	17	8	19	9	22	29	26
2	Cotton Drawers	17	11	13	16	9	11	33	20	24
3	Fatigue Jacket	25	7	9	15	13	8	40	20	17
4	Combat Boots	27	6	8	23	6	7	50	12	15
5	Raincoat	13	9	19	11	12	13	24	21	32
6	Duffel Bag	29	4	8	20	11	5	49	15	13
7	Blanket, od	28	9	4	20	15	1	48	24	5
8	Steel Helmet	13	13	15	19	10	7	32	23	22
9	Helmet Liner	19	17	5	14	19	3	33	36	8
10	Cotton Undershirt	21	12	8	18	13	5	39	25	13
11	Field Jacket	34	4	3	26	8	2	60	12	5
12	Leather Gloves	24	7	10	19	10	7	43	17	17
13	Fatigue Trousers	26	10	5	16	13	7	42	23	12
14	Necktie, OD-51	16	18	7	9	20	7	25	38	14
Total		306	137	131	234	178	92	540	315	223

# STRATUM A-EW BASIC TRAINEES

No.	Items	Number of Reasons per Item per Dimension														
		A	B	C	D			E			F			G		
						1	2	3			1	2	3	1	2	3
1	Duffel Bag	1												2		2
2	Helmet Liner					2	2	1			4	36				4
3	Necktie, OD-51	16	10			4	3	1								
4	Leather Gloves	55	1	2	3	1	1	56			4	16		5	1	2
5	Fatigue Cap	6						1				2	2			
6	Utility Bag	9	3											1		1
7	Cotton Waist	32	6	2	2	18	5	12				1		7		1
8	Raincoat	7	3			1		59			15	5	14	11		
9	Bath Towel, od	7	1	9			6							2		3
10	Overcoat	30	7	1	6	7	1	58			2	1	10	9	1	
11	Garrison Cap, od	18	1			2										
12	Wool Coat (Dress)	33	15	1	2	3	1	24				1	2	1		
13	Steel Helmet										11	48				
14	Canteen						2					9				
15	Canteen Cup						1					8				1
16	Slip	2		1		2	3	5				5				
17	Sweater	5	9	3	4	2	2	73				1	5	2		
18	Field Shoes	2				60	58	10			6	16		3	3	1
19	Scarf (Dress)	49	2	3			1	8				2	1	2		
20	Barrack Bag	1													1	
21	Wool Slacks	11	6		4	12	14	43			2.		5	4	1	2
22	Summer Panties							14			1	3				
23	Wool Anklets	5	1	1	1	9	14	53				22		4	1	
24	Dress Shoes	47	22		2	27	2									
25	Necklace (Dogtag)															
26	Nylons	64	3	34	1	1		5						10		
27	Blanket, od	7		2		3	1	98			2			2		1
28	Wool Skirt	30	11	2	4	6	7	27						7		
	Total	437	101	61	29	160	124	548			47	176	39	72	8	13
															11	30



# STRATUM A-EW BASIC TRAINEES

No.	Items	Number of Reasons per Item per Dimension											TOTAL
		<u>H</u>	<u>I</u>	<u>J</u>	<u>K</u>	<u>L</u>	<u>M</u>	<u>N</u>	<u>O</u>	<u>P</u>	<u>Q</u>	<u>R</u>	
1	Duffel Bag	26	50	14		24	2			5	1	2	133
2	Helmet Liner	1	5	7				3			9		70
3	Necktie, OD-51	1		5				2					42
4	Leather Gloves	4		7	1								161
5	Fatigue Cap		2	1		2		2				2	20
6	Utility Bag	14	35	19		2			2	6	4		96
7	Cotton Waist	2	1	12	75						3	7	188
8	Raincoat	8		20	12				11		3	17	186
9	Bath Towel, od	13	19	29	20					4	2		118
10	Overcoat	3	1	23	2		4		2		6		174
11	Garrison Cap, od		2	1	2			4		1	2		33
12	Wool Coat (Dress)	2	4	8	5		2				2		107
13	Steel Helmet	6	5	7							11		88
14	Canteen	7	53	32		6				2	1		112
15	Canteen Cup	7	14	12	2	6			1	1			60
16	Slip	2	3	36								7	66
17	Sweater		1	10	3	1	1		1		5		128
18	Field Shoes	20	6		3			1			2		201
19	Scarf (Dress)	5		21	2								96
20	Barrack Bag	8	61	7	1	1		1		4			85
21	Wool Slacks	8	36	2	17			1			2	2	176
22	Summer Panties			20	3							1	42
23	Wool Anklets	4	6	10	7						1	2	151
24	Dress Shoes	1	23	7	2		3						136
25	Necklace (Dogtag)	6	56	1									63
26	Nylons	4	5	12	1								140
27	Blanket, od	4		4	11	3				4	4		146
28	Wool Skirt	2	8	20	23						2		153
Total		158	396	354	192	45	12	14	17	27	60	40	3171

STRATUM A - EM BASIC TRAINEES

No.	Items	Number of Reasons per Item per Dimension														
		A	B	C	D	E			F			G				
						1	2	3	1	2	3	1	2	3	4	5
1	Garrison Cap, od	35	7		2	3										
2	Cotton Drawers			1	11	13	7	28		2		1				2
3	Fatigue Jacket	4			7	9		14			1	9	1	3	6	4
4	Combat Boots	10			1	20	8	19		26	3	2		2		19
5	Raincoat	7			5	1	2	46		3		6		1		
6	Duffel Bag												9	2		
7	Blanket, od					4	1	64		1		6				1
8	Steel Helmet				1			1		72		4	1			
9	Helmet Liner	4			2	6	2	7		13		1			1	
10	Cotton Undershirt	9		1		12	4	30	1	3		4				3
11	Field Jacket				6	6		61		2		1		5	8	
12	Leather Gloves	7			4	2		51		12		4		1		5
13	Fatigue Trousers	2			4	8	1	8		2		8			5	7
14	Necktie, OD-51	48		8	2							2				
15	Jacket Hood							15			13					
16	Bath Towel, od		1	8			1			2		4		1	1	2
17	Barrack Bag													1		
18	Wool Jacket (Ike)	63	5		17	5		29		1		7			6	2
19	Canteen						5			3		3	1	2	1	
20	Wool Drawers				3	5	8	49								
21	Wool Trousers (Dress)	31	1	2	5		2	39		1		9				7
22	Wool Shirt (Dress)	37	1	3	1	2	10	27		1		3				1
23	Canteen Cup						4			1		4				
24	Necklace (Dogtag)						6	3				1		1		
25	Wool Undershirt				1	3	5	36		1	11					
26	Wool Socks			1		14	18	47		11		2	7			2
27	Sweater (High-neck)	1			1	4	2	25	1	2						
28	Overcoat	32	4		4	5		47		1	11	3		1		1
	Total - Items 1-14	126	7	10	45	84	25	329	1	136	4	48	12	14	20	41
	Total	290	19	24	77	122	86	646	2	160	39	84	19	20	28	56

## STRATUM A - EM BASIC TRAINEES

Items		Number of Reasons per Item per Dimension											
No.		H	I	J	K	L	M	N	O	P	Q	R	TOTAL
1	Garrison Cap, od	4	2		3	6					2		64
2	Cotton Drawers	1		1	3		2		2		4		78
3	Fatigue Jacket	3	22	2	10		1		7			1	104
4	Combat Boots	5	3	1	5	1			1		3		129
5	Raincoat	1	4	6							8	9	99
6	Duffel Bag	2	56	1		9			6	1			86
7	Blanket, od		4	3	7	1				4	3		99
8	Steel Helmet		3	2							11		95
9	Helmet Liner	2	19	5							16		78
10	Cotton Undershirt	1		7	5		1				6		87
11	Field Jacket	4	8		7				1		4	1	114
12	Leather Gloves	3	1	1			1		3				95
13	Fatigue Trousers	4	23	1	14				12			3	102
14	Necktie, OD-51				2								62
15	Jacket Hood		1										29
16	Bath Towel, od		34	8	13					7			82
17	Barrack Bag	2	38		1	2	2		1	8	1		56
18	Wool Jacket (Ike)	2			1						1		139
19	Canteen	13	35	23	2	8	2		1	5	4		108
20	Wool Drawers	1			1				1				68
21	Wool Trousers (Dress)			4	19						1		121
22	Wool Shirt (Dress)	2	2		8				1				99
23	Canteen Cup	7	26	1	3	9	1		2	3	1		64
24	Necklace (Dogtag)	1	52	2			3		8				77
25	Wool Undershirt			2	1				2		1		63
26	Wool Socks			2					11		8		123
27	Sweater (High-neck)	1	1	2					2		1		43
28	Overcoat	8									2	1	120
Total - Items 1-14		30	145	30	56	17	5	0	32	5	57	14	1293
Total		67	336	74	105	36	13	0	61	28	77	15	2484

## STRATUM E DRESS UNIFORM

No.	Items	Number of Reasons per Item per Dimension														
		A	B	C	D	E			F			G				
		-	-	-	-	1	2	3	1	2	3	1	2	3	4	5
1	Garrison Cap, od	39	19	1	1	2					1	1	3	1		
2	Cotton Drawers		2	5	11	23	8					4	3	5	2	12
3	Fatigue Jacket	10	3		14	11		3					4	10	1	13
4	Combat Boots	8			2	30	21	4		5	6			9	11	28
5	Raincoat	26			9		2	13	10	1	2	4		1	2	1
6	Duffel Bag												1	5	5	
7	Blanket, od	2		4		1	1	62				7		10		6
8	Steel Helmet					1	3		18	27		2			2	
9	Helmet Liner	1			3	5	3	3	5	14	3		1	3	7	
10	Cotton Undershirt	1		4	4	21	7	14				14	1	5	1	11
11	Field Jacket	10			4	12		47	4		8	3	1	5		5
12	Leather Gloves	3	1	1	2	3	1	16	3	2	5		2	4	3	12
13	Fatigue Trousers	6	3		7	13		2	1			5		15	5	12
14	Necktie, OD-51	11	1	11	2	1						20		2		4
15	Bath Towel, od	1		15			5					6	1	5	2	6
16	Khaki Trousers	18	4	5	4	8		20				13		7	3	7
17	Wool Socks					25	33	38		15	4	6	1	6	2	16
18	Shelter Half		1								11	2		1	1	1
19	Sweater (High-neck)		1			7	7	38	1		5	2		1		1
20	Wool Undershirt		1		3	8	13	36			5	10		2		
21	Canteen				2		13			2		7	1		1	
22	Dogtags						9					5		2	1	1
23	First Aid Pouch									28		1				
24	Jacket Hood				4	4		11	7		31			1		
25	Fatigue Cap	7	7		1	10		1	4	1	3	12		7		1
26	Overcoat	46	8		4	12		44	3					3		
27	Wool Drawers		2		8	8	17	31			14	10		1		1
28	Wool Gloves	3			2	4	2	35		2	6	2		4	1	3
Total - Items 1-14		117	29	26	59	123	46	164	41	49	25	60	16	75	39	104
Total		192	53	46	87	209	145	418	56	97	104	136	19	115	50	141

## STRATUM B DRESS UNIFORM

No.	Items	Number of Reasons per Item per Dimension										TOTAL
		<u>H</u>	<u>I</u>	<u>J</u>	<u>K</u>	<u>L</u>	<u>M</u>	<u>N</u>	<u>O</u>	<u>P</u>	<u>Q</u>	
1	Garrison Cap, od	4	1	10	10	11	2	2	2		10	120
2	Cotton Drawers		7	2	6		10		9		1	110
3	Fatigue Jacket	3	22	2	3		10	2	16		7	134
4	Combat Boots	1	16	1	5		2	8	4		3	164
5	Raincoat		48				12		1		7	140
6	Duffel Bag	6	40	1		12			2	20	1	96
7	Blanket, od		5	3	6					10	17	134
8	Steel Helmet	5	1	1			3	1	3	1	34	102
9	Helmet Liner	1	4	3			3	1	6		11	77
10	Cotton Undershirt		5	5	4		2		2		3	104
11	Field Jacket	9	36		2		7		9		8	170
12	Leather Gloves	2	15		1		5	1	8		1	91
13	Fatigue Trousers	3	24		4		4	1	28		3	136
14	Necktie, OD-51	1	11	2	3			5	1	7	4	86
15	Bath Towel, od	1	24	5	11					15	4	101
16	Khaki Trousers	1	4	1	46				1		15	157
17	Wool Socks		9		4		1	3	1		2	166
18	Shelter Half	8	17	3		8			5	9	7	74
19	Sweater (High-neck)	4	8	2			6		2		3	88
20	Wool Undershirt	1	11	3	1		2		1		5	102
21	Canteen	1	26	6	5	15	2		4	9	4	98
22	Dogtags	1	60	3		2	1	3	1	4	6	99
23	First Aid Pouch	6	36	7		5				4		87
24	Jacket Hood	2	24	4			1	1	7		1	98
25	Fatigue Cap	3	16		4	2	2	1	4		5	91
26	Overcoat	8	26				12		29		20	215
27	Wool Drawers	2	2	2			6		2		2	108
28	Wool Gloves	4	5	2			5		4		1	85
Total - Items 1-14		35	235	30	44	23	60	21	91	38	110	1664
Total		77	503	68	115	55	98	29	152	79	185	3233

# STRATUM C FATIGUE UNIFORM

No.	Items	Number of Reasons per Item per Dimension														
		A	B	C	D	E			F			G				
						1	2	3	1	2	3	1	2	3	4	5
1	Garrison Cap, od	28	14		1	1	2	2								
2	Cotton Drawers	1		3	7	9	4	10				4		1		5
3	Fatigue Jacket	5		4	9	6		9		1		2	1	2	2	12
4	Combat Boots	10	3		1	13	15	13	3	3		6	1	1	8	11
5	Raincoat	10	2		5		6	33	1		1					1
6	Duffel Bag											1		2	4	
7	Blanket, od			1		3	2	57				1				1
8	Steel Helmet				1		2		10	36					1	
9	Helmet Liner				5	4	2	3	2	23					3	
10	Cotton Undershirt	1		1	2	4	5	8				7				5
11	Field Jacket	8	3		5	4		42		1	1		1		1	2
12	Leather Gloves	3			4		2	21		10		2	2	2	6	8
13	Fatigue Trousers	4			7	6		8		1		2	1	3	3	12
14	Necktie, OD-51	26	1	10	4	1	1	1				2				1
15	Cotton Trousers (Fld)	8		2	1	2	2	18			6	2	1	1	5	7
16	Suspenders	4			3	1	4					1				1
17	Waist Belt	4		1	4							3			7	7
18	Dogtags					1	10					1			2	
19	Poncho	7	2		13	3	6	7			2	1			1	1
20	Wool Gloves			1		1	1	52	1	1		3		1	1	13
21	Khaki Shirt	25	1	3		8	2	11				11	1	1		12
22	Shelter Half					1		9		2	14	1				1
23	Overshoes	2			1	2	3	27		2	2				1	
24	Bath Towel, od	1		7			2					4	1	1		7
25	Canteen						9					5	1			2
26	Wool Drawers		1		6	9	23	19			1	3				1
27	Barrack Bag												1	1	3	
28	Overcoat	35	4	3	4	5	1	36	2		1	1	1			2
Total - Items 1-14		96	23	19	51	51	41	207	16	75	2	27	6	11	28	58
Total		182	31	36	83	84	104	386	19	80	28	63	12	16	48	112

# STRATUM C FATIGUE UNIFORM

<u>Items</u>		<u>Number of Reasons per Item per Dimension</u>											
<u>No.</u>		<u>H</u>	<u>I</u>	<u>J</u>	<u>K</u>	<u>L</u>	<u>M</u>	<u>N</u>	<u>O</u>	<u>P</u>	<u>Q</u>	<u>R</u>	<u>TOTAL</u>
1	Garrison Cap, od	1	2	1		8					9		69
2	Cotton Drawers		6	2		2			1			1	56
3	Fatigue Jacket	1	20	1	1		1		6		4	2	89
4	Combat Boots		26	1	6			2			8		131
5	Raincoat	1	23	2		2	6				6		99
6	Duffel Bag	6	39	1		11			1	5		5	75
7	Blanket, od	2	5						1	4	7		84
8	Steel Helmet	4	5	2		1	3				34		99
9	Helmet Liner	3	11	2					1		7		66
10	Cotton Undershirt	1	4	1					1		1		41
11	Field Jacket	6	32	1					2		7		116
12	Leather Gloves		11	1			2		2				76
13	Fatigue Trousers		27		4		1		12		1	3	95
14	Necktie, OD-51	2	5		3			1					58
15	Cotton Trousers (Fld)	1	24	1	4				1		5	3	94
16	Suspenders	9	8	7			2	2					42
17	Waist Belt	3	30		9		1	1	2		2		74
18	Dogtags	1	61				2		2	2	1		83
19	Poncho	14	25	1		3	11		1	1	1	1	101
20	Wool Gloves	1	8				2						86
21	Khaki Shirt		4	2	8				3		5		97
22	Shelter Half	11	23	1		8			1	4	5		81
23	Overshoes	3	9			3	3	1			12	6	77
24	Bath Towel, od	2	22	2	7					4	3		64
25	Canteen	2	42	10	3	5			2	1	5		87
26	Wool Drawers	2	7						1		3		76
27	Barrack Bag	6	45	1		6				2			65
28	Overcoat	10	8			2	2				21		138
Total - Items 1-14		27	216	15	14	25	13	3	27	9	84	11	1155
Total		92	533	40	45	51	36	7	40	23	147	21	2319

## STRATUM D COMBAT VETERANS

No.	Items	Number of Reasons per Item per Dimension														
		A	B	C	D	<u>E</u>			<u>F</u>			<u>G</u>				
						1	2	3	1	2	3	1	2	3	4	5
1	Garrison Cap, od	10		1			1						2			
2	Cotton Drawers					2	3	2				1	1		1	3
3	Fatigue Jacket	1		1	2	2	1	2							6	7
4	Combat Boots	1				7	4	4		4			1	1	5	4
5	Raincoat	3			1		2	12	1		5			1		
6	Duffel Bag											1		1	1	
7	Blanket, od						3	20			3	1			1	
8	Steel Helmet					1	2		6	13		1				
9	Helmet Liner	1				2	2			3	3	1		1		
10	Cotton Undershirt					1	1	9								3
11	Field Jacket	2						18			14		1		1	
12	Leather Gloves	3						14		6					1	2
13	Fatigue Trousers	1		1		1		2							5	4
14	Necktie, OD-51	10		3	1		1					1			1	
15	Wool Jacket (Ike)	15		4	11	2	1	8								2
16	Mess Kit Spoon															
17	Fatigue Cap	1					2			5	1	2		2	1	1
18	Khaki Shirt	9		1		1		16				2				2
19	Canteen Cover													1	1	
20	Waterproof Bag										3				2	
21	Service Shoes	3				3	1	3		2				1	1	2
22	Overshoes							13		3	2					
23	Intrenching Tool									3				1		
24	Wet Weather Pants				1	1	2	12			1	1				
25	Mess Kit															
26	Wet Weather Parka					1	1	11			1					
27	Wool Trousers (Dress)	7		5			1	13				1				2
28	Khaki Trousers	10				1		6				4		1		2
Total - Items 1-14		32	0	6	4	16	17	81	7	26	25	6	5	4	22	23
Total		77	0	16	16	25	28	165	7	39	33	16	5	10	27	34



# STRATUM D COMBAT VETERANS

No.	Items	Number of Reasons per Item per Dimension											TOTAL
		<u>H</u>	<u>I</u>	<u>J</u>	<u>K</u>	<u>L</u>	<u>M</u>	<u>N</u>	<u>O</u>	<u>P</u>	<u>Q</u>	<u>R</u>	
1	Garrison Cap, od				1	4					5		24
2	Cotton Drawers		2		2			4	1		1		23
3	Fatigue Jacket	1	9					1	2		5		40
4	Combat Boots	1	6		3			2	1				44
5	Raincoat	1	3					1	1		4		35
6	Duffel Bag	2	14			4			4			4	31
7	Blanket, od					1			1		2		32
8	Steel Helmet	11						1			14		49
9	Helmet Liner	1	2					3			3		22
10	Cotton Undershirt		2		2			1	1		3		23
11	Field Jacket	1	2						2		4		45
12	Leather Gloves		4						1		1		32
13	Fatigue Trousers	1	7		1			4	3		1		31
14	Necktie, OD-51				1								18
15	Wool Jacket (Ike)				2			1	1		2		49
16	Mess Kit Spoon	4	4		1	4			2	4	1		20
17	Fatigue Cap	2	3		1			13					34
18	Khaki Shirt				7				1		2		41
19	Canteen Cover		17						2			2	23
20	Waterproof Bag	1	2									13	21
21	Service Shoes		5		1			4	1		3		30
22	Overshoes		1					3			3		25
23	Intrenching Tool	8	8			4				3			27
24	Wet Weather Pants		4								1		23
25	Mess Kit	1	9		1	4			1	5			21
26	Wet Weather Parka		2									9	25
27	Wool Trousers (Dress)				7				1		5		42
28	Khaki Trousers		2		13						2		41
Total - Items 1-14		19	51	0	10	9	0	17	17	0	43	4	444
Total		35	108	0	43	21	0	38	26	12	62	28	871

# STRATUM F ARCTIC

## Number of Reasons per Item per Dimension

Items		Number of Reasons per Item per Dimension														
		A	B	C	D	E			F			G				
No.		-	-	-	-	1	2	3	1	2	3	1	2	3	4	5
1	Garrison Cap, od	12	6		1	4	5	2	1			1				1
2	Cotton Drawers	1	4	2	9	10	13	4				6			3	1
3	Fatigue Jacket	7	4		4	10		8				2		1		10
4	Combat Boots	3				22	9	5		9		3	1		6	10
5	Raincoat	4	1		7	3	5	17		3	3	2		1	2	
6	Duffel Bag					1								1	4	3
7	Blanket, od			2		3	3	43						1	2	2
8	Steel Helmet					1	4		23	6				1	1	
9	Helmet Liner				4	6	5		7	2					2	
10	Cotton Undershirt	2		3	1	12	10	8		1		1				4
11	Field Jacket	4	1			9		27	1		1	1		2	1	1
12	Leather Gloves	9			3	7		26		5	1	1		3	3	2
13	Fatigue Trousers	4	5			11		1				3		4	5	13
14	Necktie, OD-51	11	1	8	1	2	1	1				3				1
	Total	57	22	15	30	101	55	142	32	26	5	23	1	14	29	48

# STRATUM F ARCTIC

<u>Items</u>		<u>Number of Reasons per Item per Dimension</u>											
<u>No.</u>		<u>H</u>	<u>I</u>	<u>J</u>	<u>K</u>	<u>L</u>	<u>M</u>	<u>N</u>	<u>O</u>	<u>P</u>	<u>Q</u>	<u>R</u>	<u>TOTAL</u>
1	Garrison Cap, od		1	1	2	5		5			12		59
2	Cotton Drawers		1	1	4	2	2	1	1		6		71
3	Fatigue Jacket	10	1	1	9		1	2	3		8	1	82
4	Combat Boots	2	3		5			9	3		5		95
5	Raincoat		7	2		1	2	2			7	2	71
6	Duffel Bag	4	36	1		18			1	9	1	5	84
7	Blanket, od	3	1		7	2					7		76
8	Steel Helmet	3	6	1				2			20		68
9	Helmet Liner								1		16		43
10	Cotton Undershirt		1	1	6	2	3		2		6		63
11	Field Jacket	5	20		1		2	4	3		12		95
12	Leather Gloves	7	8		1	1	4		3		2		86
13	Fatigue Trousers	11	4		6		1		6		4		78
14	Necktie, OD-51		2	2	5			1			2		41
	Total	45	91	10	46	31	15	26	23	9	108	8	1012

## ITEMS APPEARING IN MISCELLANEOUS CATEGORY

<u>*Item No.</u>	<u>A-EM</u>	<u>B</u>	<u>Stratum</u>			<u>A-EW</u>
			<u>C</u>	<u>D</u>	<u>F</u>	
1	5	8	4	3	4	3
2	8	23	9	4	5	1
3		3	7	2	2	4
4	3	13	5	1	3	1
5	5	5			3	2
6	3	2	1	1	1	1
7	3	11	3	3	1	6
8			1		2	3
9	4	1	1	1	3	8
10	9	25	18	6	4	6
11	7	8	1	3	3	
12	6	6	2	2	1	2
13		4	3	1	2	5
14	2	3	6	6	2	6
15		8	2	2		7
16	1	2	8	2		10
17	5	4	4			3
18	2	1	3	3		6
19	2	7	3			5
20	5	1	2			4
21	2	2	4	4		5
22	2	10	1	3		7
23	8	8	1	2		4
24	3		5	1		3
25	6	8	3	3		5
26	1	17		2		11
27	3	2	2	2		1
28	8	6	7	1		
Total	103	188	106	58	37	119

\*See Appendix I for names of items for each stratum.

## **APPENDIX V**

### **Instructions for Coding Reasons**

## INSTRUCTIONS FOR CODING

Detailed definitions of the dimensions are presented below. Enter the stratum and subject number in the space provided in the upper right corner of the score sheet. Look at each reason given for each item and determine which dimension is involved in the statement. Circle the code letter for that dimension on the score sheet. If more than one reason is given for an item, score each dimension represented in the statements.

## Dimensions

Dimension A. Appearance. Judgments under this dimension are made in terms of the general outward appearances of clothing items. Reasons given reflect concern with how an item looks, i.e., whether it presents a neat or a untidy appearance, whether it is suitable for dress uniform purposes, etc. Examples of statements are: "looks sharp", "not very neat looking", "it makes the uniform look better", "don't look dressy", "makes a good appearance".

Dimension B. Style. Judgments under this dimension are made in terms of the general styling of clothing items. Reasons given reflect concern with the fashionableness or stylishness of items. Examples of statements are: "nicely styled", "stylish", "do not like the style", "well tailored", "obsolete in style".

Dimension C. Color. Judgments under this dimension are made in terms of the color of both clothing and equipment items. Reasons given reflect concern with the appropriateness of the color or express personal likes or dislikes for the color of items. Examples of statements are: "should be white in color", "don't like the color", "good color", "not a good color".

Dimension D. Fit. Judgments under this dimension are made in terms of how clothing items fit. Reasons reflect concern with whether the item fits properly. Examples are: "good fit", "do not fit properly", "too big", "do not stay up right", "don't fit right".

Dimension E. Personal Comfort. Judgments under this dimension are made in terms of an item's effect upon an individual's personal bodily comfort. Reasons reflect concern with whether the item contributes to or maintains comfort or whether it causes discomfort. This dimension has three distinguishable sub-categories:

1. Comfortable-Uncomfortable. Reasons reflect concern with whether an item is comfortable or uncomfortable. Statements are generally just the words "comfortable" or "uncomfortable".

2. Bodily Discomfort. Reasons reflect concern with whether an item does or does not contribute to or cause some type of bodily discomfort. Examples of statements: "it itches", "hurts feet", "do not creep up into crotch", "do not scratch", "make feet sweat too much".

3. Bodily Comfort Under Weather Conditions. Reasons reflect concern with whether an item does or does not maintain bodily comfort under different weather conditions. Examples of statements: "keeps you warm", "too hot in summer", "does not keep you dry", "not warm enough", "cool", "keeps the rain off you".

Dimension F. Personal Protection. Judgments under this dimension are made in terms of an item's contribution to the personal protection of the individual. This dimension has three sub-categories:

1. General Protection. Reasons reflect concern with whether an item offers general protection. No references are made as to what part of the person is protected and no reference is made as to what the protection is against. Examples of statements are: "safe protection", "not enough protection", "good protection", "gives some protection".

2. Bodily Protection. Reasons reflect concern with whether or not an item affords protection from injury, whether it protects the body or various parts of the body, and whether it safeguards health. Examples are: "protects the body", "protects hands", "keeps you from catching cold", "healthful", "protects your head in combat", "stops bullets".

3. Protection from Weather. Reasons reflect concern with whether an item affords protection from different climatic conditions. Examples of statements are: "protects from cold weather", "protects your head from the sun and rain", "protection against bad weather".

Dimension G. Item Quality. Judgments under this dimension are made in terms of the general quality of individual items. Reasons reflect concern with the quality of the materials from which the item is constructed, the quality of the construction of the item, etc. This dimension has five distinguishable sub-categories:

1. Quality of the Material. Reasons reflect concern with the quality of the material from which the item is constructed. Examples of statements are: "good material", "poor material", "should be of better material", "shrinks", "fades too easily".

2. Quality of Construction. Reasons reflect concern with how well an item is constructed. Examples of statements are: "poor construction", "well made", "not put together very good".

3. Durableness of the Item. Reasons reflect concern with the durability of an item. Reasons given are simple statements that the item is or is not "durable".

4. Ruggedness of the Item. Reasons reflect concern with whether or not the item will hold up under rough usage. Examples of statements are: "good for rough wear", "can take a beating", "does not break easily".

5. Quality of Wear. Reasons reflect concern with whether an item will last for a long time, whether it wears out easily. Examples of statements are: "long lasting", "wears long", "wears out too quick", "long wearing".

Dimension H. Item Usefulness. Judgments under this dimension are made in terms of the usefulness of items. Reasons reflect that items are judged in terms of whether they are (a) useful, (b) handy, (c) convenient or inconvenient, (d) practical, (e) useful for many purposes and (f) useful for purposes other than those for which it was primarily designed.

Dimension I. Item Effectiveness. Judgments under this dimension are made in terms of how well the item functions in its intended capacity. Reasons reflect concern with how well an item serves its purpose and with how well it does the job it was designed to do. Two types of statements are given under this dimension. One, statements that the item does or does not serve its purpose, and two, statements that the item is good or bad for its purpose -- the purpose being stated. For example, "good for carrying clothes" made about the duffel bag; "good for carrying water" made about the canteen.



Dimension J. Necessity. Judgments under this dimension are made in terms of whether an item is essential. Reasons reflect concern with whether an item is needed, is necessary, or is necessary for a specific purpose — the purpose being stated. Examples of statements are: "necessary", "you need it", "an essential item", "a necessary item for combat".

Dimension K. Maintenance. Judgments under this dimension are made in terms of the relative ease or difficulty of maintaining an item. Reasons reflect concern with whether an item is easy or difficult to clean and keep clean. Examples of statements are: "easy to clean", "hard to keep clean", "easy to wash", "hard to shine", "will not hold a press".

Dimension L. Ease of Handling and Carrying. Judgments under this dimension are made in terms of the relative ease or difficulty with which items may be handled or carried. Examples of reasons are: "easy to handle", "hard to carry", "handy to carry".

Dimension M. Interference with Activities. Judgments under this dimension are made in terms of the extent to which items interfere with or facilitate freedom of movement and the performance of certain activities. Examples of reasons are: "allows easy movement", "gets in the way", "interferes with walking and running".

Dimension N. Ease of Wearing. Judgments under this dimension are made in terms of the relative ease or difficulty with which items may be worn. Reasons reflect concern with whether an item is easy or hard to wear, with whether it is easy or hard to don and doff. Examples of statements are: "easy to wear", "too much trouble", "too hard to take off and put on".

Dimension O. Design Aspects. Judgments under this dimension are made in terms of specific design features of items. Reasons reflect concern with certain specific aspects of individual items. Examples of statements are: "pockets are too big", "too many buttons", "good because it locks".

Dimension P. Physical Dimensions. Judgments under this dimension are made in terms of the physical dimensions of equipment items. Reasons reflect concern with the size, length, wide, etc., of such items. Examples of statements are: "too long", "size just right", "too big".

Dimension Q. Weight. Judgments under this dimension are made in terms of the weight of both clothing and equipment items. Reasons reflect concern with whether an item is heavy or light, too heavy or too light.

Dimension R. Protection for Equipment. Judgments under this dimension are made in terms of the extent to which items afford protection to other items of clothing and equipment. Examples of reasons are: "protects your items", "protects dress clothes", "saves your uniform".

Miscellaneous. In this category put all statements that carry no meaning, statements that are not interpretable or are not classifiable, and statements of personal like or dislike, such as "I like it".

## **APPENDIX VI**

### **Scale Analysis Using IBM Test Scoring Machine**

## SCALE ANALYSIS USING IBM TEST SCORING MACHINE

The following is a description of the scale analysis developed in this study for use on the IBM Test Scoring Machine. The method is an adaptation of the Guttman Scalogram method.

1. The answer sheets to which subjects' responses to the items had been transferred were run through the Graphic Item Counter. Since there were twenty-eight items with three response categories, it was possible to wire the board in such a fashion that the "good" responses were printed on the top third of the item count record, the "Indifferent" responses on the middle third, and the "Bad" responses on the bottom third. This facilitated the determination of marginal totals.

2. Marginal totals were determined from the item count record sheet. The "Indifferent" and the "Bad" categories were combined for this computation.

3. An item order was established from these marginal totals and entered on a sheet of graph paper.

4. The perfect scale types were then laid out on this sheet and a scoring stencil was punched for each of them. These stencils were "right" stencils; scoring was done only for right answers and only in Field A. When categories were combined, both were punched as "right".

5. Answer sheets were then scored on these stencils. If a sheet scored the maximum on a stencil, it meant that this subject fitted the perfect scale type. These papers were dropped. Papers which did not score the maximum were pulled and marked with the scale type number and the score obtained on that type.

6. After all stencils for the perfect scale types were run, those papers which did not fit any of the perfect types were examined. These papers were placed in that scale type for which they had received the highest score. This is the type in which they would contribute the least amount of error.

7. Errors were totaled and the coefficient of reproducibility was computed.

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